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INTERPRETATIONS OF THE SOCIO-ECONOMIC STRUCTURE OF THE URARTIAN KINGDOM

By

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To my parents

Cennet ÇİFÇİ and Ali ÇİFÇİ

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ABSTRACT

The aims of this research are to provide a comprehensive review of the available evidence for the socio-economic structure of the Urartian kingdom (of the 9^{th}-6^{th} centuries BC) and by doing so, to analyse and critique previous interpretations of the subject. Although there has been intensive research on different aspects of the Urartian kingdom, mainly chronological studies or excavations and surveys that cover different parts of what was once the lands of the kingdom, unlike previous studies this research presents a systematic review of the geographical, archaeological and textual evidence of the Urartian (and Assyrian where relevant textual evidence is available) as well as original ethnographic observations in order to analyse the socio-economic and administrative organisation of the Urartian kingdom.

After reviewing and evaluating the history of research of Soviet, Turkish and Western scholars on various aspects of the Urartian kingdom, I move on to investigating the available economic resources in the region and the movement of commodities such as the produce of arable agriculture, animal husbandry, metallurgy, and craft activities undertaken by Urartian society. The next step, in order to understand the management of these economic resources, is to examine the administrative organisation of the state including the Urartian concept of kingship and the king's role in administration, construction activities, the administrative division of the kingdom, and the income generated by warfare.

It is concluded that the Urartian state economy was heavily dependent on agriculture and animal husbandry. Military expeditions generated substantial income in the form of livestock and prisoners of war. Further wealth was accumulated by tribute, taxation and metallurgical activities. However, how these factors combined into a single economic system has been variously interpreted by individual scholars in response to their contemporary theoretical and political context.

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ECONOMIC AND ADMINISTRATIVE

STRUCTURE OF THE URARTIAN KINGDOM

ABBREVIATIONS

AJA	American Journal of Archaeology.
AnAr	Anadolu Araştırmaları.
ANES	Ancient Near Eastern Studies.
AnSt	Anatolian Studies.
ARAB I-II	D. D. Luckenbill, 1989. *Ancient Records of Assyria and Babylonia I-II*. London, Histories & Mysteries of Man.
AMI	Archäologische Mitteilungen aus Iran.
AMIT	Archäologische Mitteilungen aus Iran und Turan.
AST	Araştırma Sonuçları Toplantısı.
CAD	A. L. Oppenheim and E. Reiner (eds.) 1956-2011. The Dictionary of the Oriental Institute of the University of Chicago, Chicago.
CTU	M. Salvin, 2008 and 2012. *Corpus dei Testi Urartei* vols. 1-4. Documenta Asiana 8, Rome.
JCS	Journal of Cuneiform Studies.
JNES	Journal of Near Eastern Studies.
KST	Kazı Sonuçları Toplantısı.
KUKN	N. V. Harutjunjan, 2001. *Korpus Urartskich Klinoobraznych Nadpisej*. Izdatel'stvo 'Gitutjun'Nacional'noj Akademija Nauk Respubliki Armenija, Erevan, Erevan Institut Vostokovedenija.
RIA	Reallexikon der Assyriologie und Vorderasiatischen Archäologie.
SAA I	S. Parpola, 1987. *The Correspondence of Sargon II, Part I. Letters from Assyria and the West*. Helsinki, Helsinki University Press.
SAA V	G. B. Lanfranchi and S. Parpola 1990. *The Correspondence of Sargon II, Part II. Letters from the Northern and Northeastern Provinces.* Helsinki, Helsinki University Press.
SMEA	Studi Micenei Ed Egeo-Anatolici.
UKN	G. A. Melikishvili, 1960 and 1971. *Urartskie Klinoobraznye NadpisiI-II.* Moscow.
TAD	Türk Arkeoloji Dergisi.
VDI	Vestnik Drevnei Istorii.
UPD	I. M. Diakonoff, 1963. *Urartskie pis'ma i dokumenty*. Moskva–Leningrad, Izdatel'stvo Akademii Nauk SSSR.

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INTRODUCTION

The importance of the Urartian kingdom for the socio-economic life of the highland communities of eastern Anatolia, Armenia and north-west Iran between the 9th and 6th centuries BC has long been recognised, but the socio-economic structure of the kingdom itself, its economic resources or even the management of these resources have not yet been the subject of systematic research. Several studies have touched upon these subjects, but a comprehensive treatment has not been within their scope. While the question of the economy of the Urartian kingdom has not been addressed, or only rarely touched upon, those studies that have approached the issues of the socio-economic structure of the Urartian state are usually derived from studies of other Near Eastern states and ignored the Urartian written sources or archaeological evidence and the role played by the physical geography of Urartian territory. Additionally, there was not enough evidence at the time of these studies to be able to provide useful insights. However there have been recent developments in Urartian archaeology; in particular there is a growing corpus of Urartian textual evidence and archaeological materials from surveys and excavations that can help frame a detailed examination of the socio-economic structure and administrative organisation of the kingdom.

After emerging as powerful state around the Lake Van basin and dominating eastern Anatolia, Armenia and north-west Iran, the Urartians began a series of construction projects and started to develop agricultural activities by opening up new areas for cultivation and building water facilities around newly founded settlements in various parts of their territories. During the lifetime of the kingdom the increase in arable agriculture appears to have become as important as animal husbandry. Advances in metallurgy, especially in iron and bronze, appear to have contributed greatly to the socio-economic development of Urartian civilisation. Two phases of socio-economic and political development can be recognised in Urartu. An early expansionist period in which it was argued that in order to incorporate various small polities or kingdoms and tribes that may have existed in eastern Anatolia, Transcaucasia and northwest Iran there was neither a centralised nor decentralised system of governance. Our evidence about economic production during this early period shows some variations within the kingdom contingent on its location (Lake Van basin, Elazığ Plain etc.) and the type of production (arable agriculture, animal husbandry, metallurgy etc.). In contrast, during the reign of king Rusa (III) son of Argišti, the kingdom was restructured and reformed and several developments show change towards a more centralized administration system. For example, clay tablets and bullae were introduced and massive citadels with

various administrative buildings and enormous storage facilities were constructed. Despite these overall trends, there may have been smaller changes over the course of its history as well as some regional variations.

There can be seen to be two important factors in shaping the political and economic institutions of the Urartian kingdom that need to be highlighted at the outset; first of all, the physical geography and climate of eastern Anatolia, Caucasia and northwest Iran and secondly the constant threat of the Assyrian army. The decisions made by Urartian rulers were greatly influenced by these two factors: crucial economic sectors were organized into arable agriculture and animal husbandry according to environmental conditions; and the construction of numerous military citadels along the southern borders was intended to prevent Assyrian military incursions or to promote the defence of their territory against Assyrian aggression.

In the light of these two main considerations, the aims of this study are to evaluate the socio-economic structure of the kingdom by examining its physical geography, as well as archaeological, textual and ethnographic studies. A 'bottom-up' approach has been adopted in order to analyse different aspects of economic resources, for instance when dealing with arable agriculture and the irrigation facilities in terms of archaeological and textual evidence and subsequently an assessment of these will be presented and linked with contemporary arable agriculture. After an analysis of the region's different agricultural regions and the crops that were cultivated by Urartian farmers, I will move onto a discussion of the storage facilities such as *'ari* (granary) *pithoi* structures and the measurement system that was developed by the Urartians to accommodate agricultural products. In subsequent chapters, a similar methodology will be used to analyse archaeological and textual evidence, and this will deal more coherently with the different aspects of socio-economic and administrative organisation of the kingdom.

For the linguistic system for transliterating Russian and Armenian I have used '*Ancient Ararat: A Handbook of Urartian Studies*' by Paul Zimansky, which covers publications of Urartian studies up to 1998. Therefore Russian and Armenian sites names or authors are used as outlined by Zimansky. The Turkish names of citadels, mounds, and mountains are used for the relevant places in modern Turkey. However in order to avoid confusion with site names I have followed '*Topographische Karte von Urartu*' of Wolfram Kleiss and Harold Hauptmann (1976).

This thesis is divided into three parts. Part I provides an overview of the research history, past scholarship about the socio-economic structure of the kingdom and the research

material to hand. The first sections review the ecology, physical geography and climate of east Anatolia, north-west Iran and Armenia. This is followed by an evaluation of the source material such as textual, archaeological and ethnographic data. The history of research into Urartian civilisation and an evaluation of Soviet, Turkish and Western scholars' work on the socio-economic aspects of the Urartian kingdom are then presented.

Part II focuses on the economic resources and movement of commodities including arable agriculture, animal husbandry, metallurgy, trade and crafts. Chapters one and two address the arable agricultural activities and animal husbandry by analysing written material from the Urartian and Neo-Assyrian periods, as well as archaeological evidence from excavated Urartian sites, and ethnographic data drawn from modern farming communities in the highlands of eastern Anatolia, Armenia and north-west Iran. The discussion then moves to the role of metallurgy in the Urartian kingdom by analysing Urartian and Neo-Assyrian textual sources, ore deposits, and the archaeological evidence for metal workshops. The role that iron, bronze, silver and gold played in Urartian society will also be considered. Chapter four opens with a brief review of general scholarly opinion about trade and then deals with written and archaeological evidence and its overall impact on the Urartian economy. The last chapter in this part provides a review of the evidence for textiles, carpentry and pottery.

In Part III the social, political, and economic organisation of the kingdom will be discussed. In order to understand the control and management of economic resources I will start by examining administrative divisions within the kingdom, then its building activities, and then military structure and the income generated by warfare. Finally I will analyse the monarch's role in the formation of the kingdom, his role in its administration, decision making and the nature of the royal bureaucracy.

Chapter conclusions summarise the evidence and addresses questions that arise throughout and the appendix presents a new chronology of Urartian kings.

PART I

A CRITICAL REVIEW OF THE MATERIAL

I.1. Topography, Hydrology, Climate and Ecology

What was once the Urartian territory is now divided among the modern nation-states of Turkey, Armenia and Iran and the adjoining highlands of the Zagros Mountains in northern Iraq. The boundaries of the Urartian kingdom extended from the Karasu-Euphrates rivers in the west, into the Armenian volcanic highlands and the Lake Sevan basin in the north, to the east into the Lake Urmia basin in north-west Iran, and to the Zagros Mountains to the south (Maps 1 and 2). The mountains of Great Ararat/Ağrı Dağ (5165 m) and Aragat (3925 m) rising from the east of the Karasu-Araxes Mountain range are the most distinctive features of the physical geography of the Urartian territory. Between these mountains lie smaller mountains, volcanoes (Nemrud, Süphan and Tendürek), and an expanse of basalt lava that covers a large area reaching from Nemrud Dağ to Ağrı Dağ.

The Lake Van basin, which lay at the heart of the Urartian kingdom, is surrounded by high mountains with Nemrud Dağ (3050 m) to the west, Aladağlar (3255 m) to the north, the South-Eastern Taurus Mountains to the south, and to the east it is surrounded by a mountain chain that separates modern Turkey and Iran. The average altitude of the Lake Van basin is between 1646-1859 m, which is similar to Lake Sevan (1900 m. above sea level), but which is about 400 m higher than Lake Urmia[1] (Persian: Rezaiyeh) basin that lies in north-western Iran at an altitude of 1250 m above sea level (Map 2). Average annual precipitation in the Lake Van basin is close to 400 mm[2], similar to the annual rainfall of the Lake Sevan[3] basin (this fluctuates between 350 mm to 446 mm in the coastal zone and 800 mm in the mountains that surround the lake basin).[4] By contrast the annual precipitation of the Lake Urmia basin fluctuates between 200 mm and 300 mm.[5] Because the lake basins are surrounded by high

[1] The water level of the lake for a long time has been decreasing, especially in the last 10 years due to the dry climate. The lakes' water level has dramatically decreased by 6 m (Eimanifar and Mohebbi 2007: 2; Golabian 2011: 368) and the salinity increased in the lake.
[2] Atalay and Mortan 1997: 467.
[3] In 1933 a tunnel was connect to Hrazdan River with the Lake Sevan. However by the 1950s the ecological and economic consequences of extensive use of water from the lake basin had reduced the water level of the lake substantially (by 20 m). As a consequence of such extensive use, the quality of the water deteriorates and causes the destruction of natural habitats in the lake. To increase the water level of the lake a 49 km long tunnel was connected Arpa River in 1981 and a further 22 km long tunnel from Vorotan River was constructed in 2004 (Sargsyan 2007: 339-349; Babayan *et al*. 2006: 354).
[4] Sayadyan 2002: 19-20.
[5] Eimanifar and Mohebbi 2007: 2; Golabian 2011: 367.

mountains, these regions receive more rain and are relatively warm, in comparison to other parts of the Urartian territory.[6]

A number of major rivers flow through the Urartian territory. These include the Araxes and Kura rivers, that flow towards the Caspian Sea, and the main tributaries of the Euphrates (*ÍD Purana*)[7] such as the Murat (*ÍD Arṣiani*) and Karasu, which run south and form the Euphrates in the Elazığ Plain.[8] These rivers and the numerous small tributaries of the mountainous regions of eastern Anatolia and north-western Iran are predominantly fed by meltwater from snow and heavy spring rainfall and flow through wide plains and gorges. For example, the Murat River takes it source from Aladağ Mountain and flows to Ağrı-Eleşkirt before it turns south-west towards the Malazgirt, Muş and Bingöl plains and reaches the Elazığ Plain where it joins the Karasu to form the Euphrates. Likewise, the Araxes has a total length of about 1072 km, and flows from Pasinler into the Ararat Valley and Nakhichevan, and from there, to north-west Iran. It was one of the most important drainage areas in the Urartian territory.

Precipitation in the Araxes drainage area varies. For example, in the northern part of the Aragat Mountain, where the inter-mountain plains of Aparan, Tsaghkahovit and Shirak are located, there is more rainfall than the Ararat Valley where the average rainfall is only between 150 mm and 300 mm.[9] The summers are dry, and winter snowfall is not as heavy as in the Karasu and Murat river basins. The largest plain in the Araxes drainage area is located in the Ararat Valley[10] between Mount Ararat and Aragat, which lies along the course of the River Araxes between the modern borders of Armenia, Turkey and Nakhichevan.

The region lies in the continental climate zone with long, cold winters and short, cool summers which are the main climatic characteristics of the region. Average temperatures drop to sub-zero from December to late February in most parts of the region. However because of the marked differences between regions, there are areas such as Iğdır and Elazığ[11] where there is a slightly warmer climate than that found in regions such as Erzurum and Muş.

The mountainous region of eastern Anatolia is mostly treeless with the exception of regions like Bingöl, Tunceli and Erzincan Kağızman where oak and yellow pines still cover

[6] Sayadyan 2002: 19-20; Saraçoğlu 1989: 451-454; Eimanifar and Mohebbi 2007: 2; Golabian 2011: 367.
[7] All the text in italic and brakets are Urartian unless otherwise stated.
[8] Atalay and Mortan 1997: 312-313.
[9] Smith 2009a: 6.
[10] Piotrovsky 1969: 71.
[11] The Elazığ region consists of three sub-regions: Elazığ Plain in the northern part of the region where the city of Elazığ is located; Uluova/Altınova (Uluova is submerged by the waters of the Keban reservoir) plain is on the southern parts of the city of Elazığ; and lastly the Hazar depression around Lake Hazar (Atalay and Mortan 1997: 512).

wide areas.[12] However, archaeo-botanical analyses from Urartian sites in these regions suggests that the landscapes of eastern Anatolia, north-west Iran and the Transcaucasia were richer and more varied than today and that there were extensive forests and plentiful wildlife. Vast areas of meadows and pastures were situated in the broad plains between river valley basins.

I.2. The Source Material

There are three main categories of source materials for the study of the socio-economic structures of Urartian kingdom which must be understand with the physical environment outlined above: (1) archaeological material from excavations and surveys, (2), Urartian and Assyrian texts and (3) ethnographic data. I will review the nature and quantity of these materials in the following paragraphs.

I.2.1. Archaeological Data

There have been unsystematic excavations and periods of intense research in different parts of what was once the Urartian territory. Excavations of Urartian sites have mostly concentrated on the citadels constructed by their rulers, because such sites yielded inscriptions, artefacts and architectural remains for their excavators. The vast majority of excavated material comes from sites that date to the mid 7th century BC (to the reign of Rusa son of Argišti) from sites such as Karmir-Blur, Ayanis and Bastam, with a few exceptions that date from earlier periods (Armavir, Arinberd etc.). Hence, most of our archaeological material is the product of sites connected with the ruling elite and, in most cases, restricted to the royal family or monarch and period.

Some of the material from earlier excavations was so poorly documented that the archaeological context of some of these objects is not known (see I.3 and I.4). Botanical or zoological remains have likewise received little or no attention as they were not a priority for earlier excavators. Some sites were either poorly excavated, or either were published only as brief or partial reports, as in the cases of Çavuştepe and Patnos/Giriktepe. Furthermore, the settlements where the majority of the Urartian population lived and the cemeteries where they were buried received little or no attention until the second half of the 20th Century.

Nevertheless, despite all these difficulties our understanding of Urartian civilisation has been transformed by archaeological research and this thesis has made use of these

[12] Atalay and Mortan 1997: 475-483.

archaeological sources to better understand various socio-economic aspects of Urartian society. In addition to archaeological excavations, field surveys undertaken by Urartian scholars have identified a large number of Urartian sites as well as new cuneiform inscriptions. Recent surveys have not only recorded and located fortified citadels but also numerous settlements, cemeteries, water facilities and mining sites.

Altough famous for its metalwork, it is unfortunate that a great majority of the Urartian metal artefacts are of unknown provenance. Whether they are from sites in modern Turkey, Armenia and north-western Iran, their context of discovery is often unknown as there has been a great deal of looting of Urartian sites over the years and across a wide area. Meanwhile there is a large number of publications on Urartian metal artefacts, most of which are unprovenanced and displayed in museums and private collections around world. For instance, the majority of the belts presented in H.-J. Kellner's study of Urartian belts[13], which included 449 pieces from unknown provenance as the exhibition catalogue of Israel Museum in Jerusalem edited by R. Merhav in 1991[14], consisting mostly of bronze, gold, silver and iron objects. Another example is the catalogue published by the Ancient Orient Museum, Tokyo[15], which illustrated 127 Urartian metal objects without provenance. These are some of the examples that show the long-distance travel of Urartian metal artefacts on the art market.[16] However, this thesis has largely avoided such unprovenance material.

I.2.2. Urartian Texts

There are three different sub-categories of Urartian texts. The vast majority of Urartian texts mainly consists of royal inscriptions and were inscribed on stone and erected in the name of the reigning king. These royal inscriptions were for the purpose of display and to record building activities, animal sacrifices, military actions and conquests. The language of the inscriptions often appears formulaic and repetitive and they range in length from just a few short lines to hundreds of lines in length, as seen in the Annals of Argišti I and Sarduri II. There are clear differences between the inscriptions belonging to the 8th century BC and those of the 7th century BC. The earlier Urartian kings seem to have commemorated every single building with an inscription, which stands in contrast to the deeds of kings from the later period, who were more likely to have a single dedicatory inscription erected for an entire site

[13] Kellner 1991a.
[14] Merhav 1991a.
[15] Tanabe *et al.* 1982.
[16] See Muscarella (2006: 147-177) for the issues, the scale of the problem and the publications that deal with metals of unknown provenance from Urartu.

or city. Therefore, the vast majority of our evidence with regards to display inscriptions comes from the 8th century BC, even despite their formulaic and repetitive nature. In any case, most of our evidence relating to state institutions such as the pantheon, army and kingship comes from these sources. But neither earlier nor later period inscriptions contain any information about the administration of the kingdom. However, in the inscriptions of both periods there is a strong emphasis placed on expressing the power of the kingdom by focusing on construction activities, military accomplishments and religious sacrifices by the reigning monarch.

The second sub-category of texts comprises administrative documents of the 7th century BC which include clay tablets, seals and seal impressions. These have mostly been recovered from citadels constructed during the reign of Rusa (III) son of Argišti. The limited numbers of known clay tablets - 20 or so - are also associated with Urartian kings and the royal bureaucracy. However, despite having a limited number of administrative texts, the content of these texts differs from royal display inscriptions as these clay tablets often provide information about Urartian kingship or the king's role in the governance of the state and the royal bureaucracy.

The third sub-category of texts are the short dedicatory inscriptions seen on some metal objects. These inscriptions feature the name of the king and most of these objects were found at temple complexes. The royal context of all these textual sources must be borne in mind when using them to reconstruct to social and economic character of the state as a whole.

This study makes extensive use of the publication of Mirjo Salvini's new *Corpus dei testi urartei* (CTU). Throughout his career Salvini has contributed significantly to our understanding of Urartian civilisation. Salvini's *Corpus* included[17] newly discovered inscriptions and new readings of numerous inscriptions.[18] In addition, Georgi Melikishvili's (Russian) editions of *Urartskie Klinoobraznye Napdisi* (Urartian Cuneiform Inscriptions hereafter referred to as UKN) and Igor M. Diakonoff's *Urartskie pis'ma i Dokumenty*

[17] The first three volumes (Salvini 2008) cover rock inscriptions, including stelae and rock inscriptions 'A' and the fourth volume (Salvini 2012a) contain the texts on metal 'B', clay 'C', other material 'D', seal inscriptions on clay 'E' and also included the newly discovered inscriptions since the publication of the first three volumes.
[18] This new publication creates a new numbering system and was reorganised according to materials and kings. Salvini also incorporated the already existing inscriptions with the newly discovered texts but, most importantly, under this new system any newly discovered texts can be added according to the number of each king without disrupting the overall numbering of texts.

(Urartian Letters and Documents = hereafter referred to as UPD) are widely used in the literature, both these corpora are also referenced here.[19]

I.2.3. Assyrian Texts

Neo-Assyrian royal inscriptions and administrative letters can also provide us with an invaluable source of information on various aspects of Urartian society. There are also a few Urartian inscriptions written in Assyrian, as well as bi-lingual inscriptions which are an essential source for understanding the Urartian language.

The information that is presented by these sources differs in nature from the Urartian royal inscriptions. Although the name of Urartu in the form of Uratri/Uruatri is mentioned for the first time in the Middle Assyrian period from the 13th century BC onward, it is not until the reign of the Assyrian king Shalmaneser III (858-824 BC) that references to the Urartian kingdom became more common, and so provide more information. These earlier inscriptions were mainly concerned with military expeditions against tribes called the Nairi and the Uruatri and portray a time of political fragmentation in eastern Anatolia.

However, with the reign of Sargon II (722-705 BC) the name of Urartu increasingly appears in Assyrian documents. The annals of Sargon II (in particular, his famous letter to the god Assur during his 8th military campaign against Urartu) and the information obtained by his scouts provide us with a unique insight into the organisation of the Urartian kingdom. In particular, the administrative letters present an invaluable source of information about the organisation of the Urartian kingdom. The majority of these administrative letters comprise correspondence between the king and his officials - particularly provincial governors. The letters coincided with the period of expansion by the Neo-Assyrian kingdom into the southern and eastern borders of Urartu and hence contain information about the movements of the Urartian king and his army as well as informing us about various aspects of Urartian society and culture. These letters are unique for not being propagandistic in nature, hence differing from other Assyrian and Urartian royal inscriptions or annals. Therefore, these letters provide us with a perspective on many otherwise unknown aspects of the Urartian kingdom, such as internal affairs, Urartian relations with other states (Šubria, Kumme etc.) and even the administrative structure of kingdom. This textual information has therefore been of great benefit to this study.

[19] Also on numerous occasions references will be made to the German edition by Friedrich König *Handbuck der Chaldischen Inschriften* (1955-1957) (HchI) and the publication of Nikolai Arutjunjan's new edition (Arutjunjan 2001 KUNK) of *Korpus Urartskich Klinoobraznych Nadpisej* (Corpus of Urartian Cuneiform Inscriptions) in Russian.

I.2.4. Ethnographic Observations

The importance of ethnoarchaeology has long been recognised and it has increasingly become an important source of information for the study of ancient societies.[20] However it should not be assumed that the ethnographic data on agriculture and animal husbandry from eastern Anatolia that is presented here can be used as a mirror or direct reflection of the farming practices of Urartian society. Observation of traditional farming practices in parts of rural eastern Anatolia[21] can provide us with valuable insights into those of the Urartians even though modern machinery has changed the farming communities of the region and the introduction of Islam may have changed rural life.[22] Even so it seems likely that some farming practices have changed very little since the time of the Urartians.

The information derived from observing the present and from the writings of earlier 19th century travellers has also been useful for understanding the traditional ways of life of eastern Anatolia's rural farming communities. Ethnoarchaeological data[23] and the accounts of the earlier travellers[24] are employed here to highlight the adaptive strategies that are employed in the rural areas of eastern Anatolia, where farmers have to cope with a severe climate and a harsh environment.[25] In particular, earlier travellers' accounts of eastern Anatolia help us to understand how adaptive strategies might have evolved and been employed by the Urartians. Therefore, since the climate and environment of the Urartian kingdom was similar to today (see II.1.2.1), by examining the ethnographic data alongside the material culture of the Urartians we may shed some new light on their socio-economic life. Hence, the presentation of ethnographic observations and historical travellers' accounts in this thesis can be seen to provide only an aid to interpretation, by demonstrating the adapative strategies of contemporary populations to the same extreme landscape inhabited by the Urartians, rather than firm evidence for a direct continuity of practice. Such insights are of particular value because they counteract the preponderance of evidence from the citadels and elite settlements that have historically been the main concern of archaeologists (see II.1.3 and II.2.2).

I.3. The Rediscovery of Urartu

[20] See major work of Yakar (2000) on ethnoarchaeology of Turkey.
[21] See Hopkins' (2003) studies of Sos Höyük and Yiğitpaşa Village in Erzurum Plain.
[22] Greaves 2002: 16-24.
[23] Yakar 2000; Stirling 1965; Hopkins 2003.
[24] Brant 1836; Brant and Glascott 1840; Pollington 1840.
[25] Hopkins 2003: 4-6.

In this section I will briefly outline the earliest linguistic and archaeological investigation of Urartu. The rediscovery of Urartu dates back to 1826, when the *Société Asiatique* of France sent Friedrich E. Schulz to eastern Anatolia on a four year mission to investigate the ancient remains in the Lake Van region. Schulz prepared a catalogue featuring copies of cuneiform inscriptions from Van Kalesi (citadel) and other sites nearby. Schulz's work was brought to a sudden and terrible end when he was murdered on Hakkâri Mountain, but his work reached Paris where it was published in 1840.[26]

There was a long break in the early investigation of Urartu after Schulz's work, as the archaeological discovery at Nimrud diverted scholarly attention towards Mesopotamia. In 1850, Austen Henry Layard made a short visit to Van and it is known that he made copies of some cuneiform inscriptions from Van Kalesi but it was not until 1872 that Archibald Henry Sayce[27], following the pioneering work of both Schulz and Layard on Urartian bi-lingual inscriptions, was able to establish the vocabulary and grammar of the ancient Urartian language and make a translation of some of the Urartian inscriptions known at that time.

Although there were numerous references to Urartu in Assyrian texts it was not until Sayce's work that this forgotten kingdom once again emerged out of the darkness. Numerous artefacts from Urartu began to flood the antiquities market between 1870 and 1900, particularly those taken from the mound of Toprakkale. These artefacts found their way into the hands of private collectors and also entered the collections of the major European museums such as the Louvre, the British Museum, and the Hermitage. Whilst there were great discoveries of Assyrian palaces and other monumental buildings in today's northern Iraq, Urartian sites were left to face random plundering and illicit excavation. In 1880 the site of Toprakkale, located on Zımzım Dağ north of Van, from where local inhabitants had already acquired numerous bronze objects, was chosen by the British Museum for an archaeological expedition.[28]

The expedition was under the directorship of the British Vice-Consul in Van, Capt. E. Clayton, Hormuzd Rassam (local representative of the British Museum) and an American missionary Dr. Raynolds. Despite the discovery of a temple, and numerous bronze artefacts, the site of Toprakkale was abandoned to its fate, the expedition team disappointed that it had not discovered any monumental buildings. The artefacts found by the expedition were sent to the British Museum, some of which were to be displayed alongside Assyrian artefacts. The

[26] Zimansky 1998: 286-287; Salvini 2006: 16-17.
[27] See various entries in Zimansky (1998) for Sayce's pioneering work on Urartian texts known to him.
[28] Barnett 1950: 1-2.

rest were kept in the museum's store where they lay forgotten until they were studied and subsequently published by Richard D. Barnett in the 1950s.[29]

By the time a German expedition under Carl Ferdinand Lehmann-Haupt and Waldemar Belck arrived at the Toprakkale in 1898[30], the site had suffered considerably, and the surface of the mound was full of trenches and pits dug by treasure hunters. The archaeological material obtained by the German expedition was kept in Berlin Museum and were examined and published by Gerhard R. Meyer in the 1960s[31] and later by Ralf-Bernhard Wartke.[32]

It was not until 1911-12 that further archaeological work was carried out at Toprakkale by Iosif A. Orbelli, who made the discovery of a large stele dated to the reign of the Urartian king Sarduri II. In 1916, when the city of Van was under Russian occupation, Nikolai Marr conducted further excavations at the site under the auspices of the Russian Imperial Archaeological Society.

In the aftermath of World War One, archaeological investigation in the province of Van, the centre of Urartian civilisation, came to a virtual end due to the depopulation and suffering in eastern Anatolia caused by the war. It was not until 1938 that archaeologists returned to Van, when an American expedition led by Silvia and Kirsopp Lake[33] carried out work at Toprakkale, Van Kalesi and the Old city of Van. However, this expedition was badly effected by the outbreak of Second World War.

Although this earlier phase of the rediscovery of Urartian archaeology made great contributions to understanding of the Urartian civilisation, the next phase was to develop separately in what was once the Urartian territory. Therefore, this new phase of Urartian archaeology will be dealt under separate headings.

I.4. Urartu between East and West: Ideologies and Interpretations

This section aims to evaluate the work of Soviet, Turkish and Western scholars on the socio-economic aspects of the Urartian kingdom. Because the territory of the former Urartian kingdom was divided between the modern nation-states of Turkey, Armenia and Iran, Urartian scholarship until the last decade of the 20th century developed separately in each of these countries. Therefore their different 'national' cultures influenced how these nations perceived Urartian archaeology and, in particular, the socio-economic aspects of the Urartian

[29] Barnett 1950: 1-43; 1954: 3-22.
[30] Lehmann-Haupt 1910: 31.
[31] Meyer 1967: 7-11; 1968: 212-223.
[32] Wartke 1990.
[33] Lake 1940: 179-191.

kingdom. However it is not just national cultures that influenced the interpretation of archaeological data, the social context within which archaeologists operate, or the questions they ask, the methods they apply to examine those questions can also be influential in their community of practice.[34] I have chosen three key sites within the former Urartian territory (Karmir-Blur, Çavuştepe and Bastam) where these schools operated and labeled those schools with the names of these sites to illustrate how different archaeological traditions emerged and contributed to the development of Urartian archaeology through the communities of practice that developed in working at these sites.

I.4.1. Karmir-Blur: The Marxist School of Urartian Archaeology

Urartian studies in Armenia[35] developed along two separate strands; archaeological and philological. One of the most influential scholars of Urartian archaeology in Armenia was Boris B. Piotrovsky, who was educated at Leningrad State University by the influential Marxist ideologist Nicolai Marr.[36] As a student of Marr[37], Piotrovsky was heavily influenced by Marxist historical materialism and this is reflected in his publications in which he concentrated on the role of the economy as a driving force for social and political transformation.[38]

Systematic excavations at Karmir-Blur, on the outskirts of Erevan, began in 1939 led by Piotrovsky (Map 4).[39] Karmir-Blur was to become a training ground for the next generation of Soviet-era archaeologists in Transcaucasia, particularly those from Armenia, and continued to be so until the 1980s. Due to the discovery of large storage rooms at the Karmir-Blur, the economy of Urartu received great attention from Soviet-era archaeologists who examined its role in social and political change. According to Piotrovsky the developments of ancient economies such as Urartu were 'evolutionary types'[40] which were deeply rooted in Marxism. Under the influence of Marxism, Piotrovsky was preoccupied with

[34] See Greaves (2010: 28-36) for different archaeological traditions and their influence on Ionian archaeology.
[35] In Soviet Armenia, institutions such as Yerevan State University, Yerevan State Museum, the Commission for the Preservation of Antiquities and the Institute of Science and Art were to play a major role in Urartian archaeological investigations alongside the Heritage Museum at Leningrad/St. Petersburg.
[36] Lindsay and Smith 2006: 170.
[37] Another student of Marr was Nicholas Adontz (1946: 215), who suggested that the Urartian state was a feudal monarchy and governed by a 'King of Kings, and divided Urartian land into three different territories (1946: 208). The first category included central parts of the kingdom –the land was divided into units, as provinces and governed directly from palace (Tušpa); the second category was made of conquered lands and dependent kingdoms that retained their independence but paid tribute; and lastly there were tributary independent kingdoms who were under the authority and political influence of the Urartian state.
[38] Smith 2009b: 13-17.
[39] Piotrovsky 1950, 1952, 1955; Barnett and Watson 1952: 132-147; Barnett 1959: 1-19.
[40] Smith 2009b: 17.

the Urartian government's part in the organisation, redistribution, and the storage of economic resources, as well as the use of slave labour.[41] His works at Karmir-Blur were summarized into English, and published by Barnett, which meant that they reached a much wider audience than they would have done otherwise.[42]

Archaeological excavations at Arinberd[43] led by Arutjun A. Martirosyan began in 1950, and the site was identified as the Urartian citadel of Erebuni (Figures 1 and 2). These excavations uncovered the remains of a palace, temples, and various storage rooms. The investigations also revealed that Erebuni was established by the Urartian king Argišti I in the 8th century BC, but after the creation of Teišebai (Karmir-Blur) Erebuni was abandoned and a great deal of material was transferred from it to the new seat of royal power. In 1964, archaeological excavations carried out at Armavir[44] (Figure 3) by Konstantin Oganesyan revealed that the site was formerly the large Urartian citadel of Argištiḫinili, and the remains of many of the city's houses were discovered in the lower town.[45] The finds from these excavations, and in particular those from Arinberd, were seen in Armenia as the remains of the precursor of Yerevan and the names and symbols of Urartians were to dominate popular Armenian culture towards the end of the Soviet era.[46]

Meanwhile scholars such as the Marxist Giorgi A. Melikishvili[47] and Igor M. Diakonoff[48] produced a series of influential theoretical works on the socio-economic and political organisation of the Urartian kingdom as well as making great contribution to our understanding of the Urartian language. Melikishvili published a comprehensive Russian edition of Urartian Cuneiform Inscriptions (*Urartskie Klinoobraznye Napdisi*) and all the known Urartian letters and documents (*Urartskie pis'ma i Dokumenty*) were published by Diakonoff, about half of which came from the site of Karmir-Blur.

In his work on the socio-economic aspects of Urartian society, Melikishvili[49] argued that the central bureaucracy penetrated all levels of society, and that the king actively engaged in the organisation of the production and redistribution of resources. Melikishvili believed that in the territory of Urartu, there were large numbers of royal fortresses that had

[41] Lindsay and Smith 2006: 173-174.
[42] Barnett and Watson 1952; Barnett 1959.
[43] Oganesjan 1961; Hovhannissian 1973a.
[44] Martirosyan 1974.
[45] The recent Armenian and Italian archaeological survey of Lake Sevan (Biscione *et al*. 2002) and the ArAGATS project led by Adam T. Smith (Smith *et al*. 2009; Smith and Thompson 2004: 557-580) in Armenia made big contributions to our understanding of the Urartian presence in Armenia.
[46] Lindsay and Smith 2006: 173-174.
[47] Melikishvili 1951, 1953.
[48] Diakonoff 1952, 1963b, 1991a.
[49] Melikishvili 1951: 25-72; 1978: 39.

military-administrative purposes, and which represented the extensive royal (state) economy.[50] He believed that these centres were used as warehouses for agricultural products and slaves worked in the vast fields and gardens of the royal households. In his vision of Urartian history the 'royal estates' founded by the Urartian rulers played a considerable role in the economic organisation, redistribution and storage of surplus goods and slave labour. However, Melikishvili[51] did recognise the private economy, but emphasised the greater role played by the royal family and the Urartian aristocracy, who very probably owned slaves. In Melikishvili's opinion, feudalism was the most common feature of pre-capitalist societies, and he characterized the Urartian kingdom as feudalistic.[52] Melikishvili's arguments were clearly derived from Marxism, which occupied a dominant place during the Soviet-era among archaeologists and anthropologists.[53] However, this interpretation was questioned by Vsevolod S. Sorokin[54], Diakonoff[55] and Zimansky.[56]

The main objections of Sorokin[57] and Diakonoff[58] to Melikishvili's argument focused on the matter of the king's ownership of large estates and the scale of slaves and their exploitation not just in terms of labour and military services but also in terms of taxes and tribute. Diakonoff[59] argued that in the majority of the centres of the Urartian kingdom, there was no 'royal economy' and even if there was, this was probably similar to the economies of communities or communes (who were living in large families or patriarchal clans and had the land). He further argued that the social structure of Urartian society would not allow for the creation of large estates, where the palace had a firm grip on economic resources. Diakonoff[60] argued that in the Urartian kingdom, communities consisted of a free population (*pātara*) who had their own governments – in the form of national assemblies and councils of elders and with communal agricultural. The creation of an irrigation system located in previously uncultivated land does not necessarily mean that the king owned the land and such land could then be transferred to the commune. The land could have been owned by community

[50] Melikishvili 1951: 25.
[51] Melikishvili 1951: 35.
[52] Melikishvili 1978.
[53] Trigger 2008: 207-243.
[54] Sorokin 1952: 127-132.
[55] Diakonoff 1952: 90-100.
[56] Zimansky 1985.
[57] Sorokin 1952: 127-132.
[58] Diakonoff 1952: 90-100, 1963b: 63-65.
[59] Diakonoff 1963b: 62.
[60] Diakonoff 1963b: 60-65.

members who lived in large families or patriarchal clans and who, in all probability, held large tracts of land.[61]

Diakonoff[62] offered a new model for the socio-economic study of Urartian society and divided it into four social-economic categories according to his interpretation of Sarduri II's inscription of A 9-3 VII/UKN 155G (see III.3.4 for detailed discussion): the top rank were the *Šurele* who consisted of the free upper classes and were the more socially privileged native Urartians[63]; *Ḫurâdinele* were the population of conquered lands; *Urordele* were probably peasants who supplied the temples with labourers as well as agricultural products and were probably liable for military and other public services and consisted of extended families; lastly, there were the *Purâle* – slaves who were usually prisoners of war and who were mainly used as servants and workers in privileged households. In Diakonoff's structure the Urartian economy was concentrated in the hands of the *Šurele*. They were the suppliers of military personnel until Sarduri II ascended the throne and reduced the š*urele's* military service obligation.[64] Diakonoff[65] argued that after Sarduri II freed the *šurele* from their military obligations a new royal army was formed using the *hurâdinele* and reduced the taxes levied on the *urordele*. The taxes were used for the maintenance of the army and the reduction on taxes indicates an increase in the strength and growth of economic resources in term of stock and agricultural products.

Diakonoff's class-based model of Urartian society was derived from his own model of ancient Near Eastern societies of the third and second millennia BC. In these societies he argued for the importance of socio-economic divisions: 'the society was divided into social classes occupying different positions within the production process and differing in their relationship to the property in the means of production and to exploitation'.[66] In Diakonoff's model the 'upper class' consisted of people who did not engage in productive work and who exploited the labour of others. They owned property in the means of production or owned property in return for their services and most importantly, they managed the economy of the

[61] Diakonoff 1963b: 61.
[62] Diakonoff 1991a: 17.
[63] Diakonoff 1991a: 15 no. 28, 30.
[64] Diakonoff 1991a: 17-21.
[65] Diakonoff 1963b: 59.
[66] The society of the third millennium BC that developed in the southern Mesopotamia was divided into several social estates in Diakonoff's proposed model. The Upper estate members of the communities who participated the communal ownership of property in land, and had right to take part in communal self-government (Diakonoff 1991b: 39); Lower estate comprised state or temple personnel who owned no land outright but either possessed land only in return for their services or possessed no land and were allotted rations; and lastly there were slaves who treated as possessions and had no rights (Diakonoff 1991b: 39).

state sector in the interests of the ruling class.[67] Agriculturalists and craftspeople made up the 'middle class' but, as a rule, members of this class did not exploit the labour of others, although in some exceptional cases they used people for auxiliary labour.[68] Members of this so-called Middle Class also included landowning community members as well as those who owned conditional land. The lower class consisted of people who owned no property and who were subject to extra-economic exploitation.[69] Slaves also formed part of the lower class. In my opinion it can be argued that Diakonoff's model was too general and did not recognise how the geography of individual regions shaped the socio-economic organisation of Near Eastern societies, rather, Diakonoff seeks to impose Marxist concepts of class onto the interpretation of Near Eastern societies.

I.4.2. Çavuştepe: The Turkish School of Urartian Archaeology

The accidental discoveries of elite tombs in 1938 and 1956 at Altıntepe, near Erzincan, convinced Tahsin Özgüç to conduct an excavation at the site in 1959 and he continued to excavate the site until late 1960's.[70] This was a turning point not only for Urartian archaeology but also for Turkish archaeology in general as was the creation of the İstanbul University Historical and Archaeological Research Centre in Van by Afif Erzen.

Erzen headed a joint project of the universities of İstanbul and Ankara that arrived at Van in 1959 with the aim of investigating the archaeology of eastern Anatolia and aiming to revive Urartian archaeology in the region. He combined his excavations with a survey of Lake Van while working in the Lake Van basin. On his arrival he restarted excavations at Toprakkale, a site which was mostly destroyed, and then turned his attention to Çavuştepe (Haikapert/Asbasın), in the Gürpınar Valley. Erzen's project was to prove a fertile training ground for the next generation of Turkish Urartian scholars,[71] some of whom were still active in the field until recently.

The work of Turkish archaeologists was concentrated in the central parts of the Urartian territories, at Çavuştepe (Figures 7, 34, 50 and 57)[72], Van Kalesi (Figure 6)[73], Toprakkale[74],

[67] Diakonoff 1991b: 39.
[68] Diakonoff 1991b: 39-40.
[69] Diakonoff 1991b: 40.
[70] Özgüç 1966, 1969.
[71] The new generation of Turkish archaeologists such as M. Taner Tarhan, M. Ali Dinçol, Mehmet Özsait, Veli Sevin, Oktay Belli, Yusuf Boysal, Baki Öğün and Altan Çilingiroğlu, who played a part in Turkish archaeology were to work at Çavuştepe under the direction of Erzen.
[72] Erzen 1988.
[73] Tarhan and Sevin 1990: 355-375; 1991: 429-456.
[74] Erzen 1977: 1-59; 1979: 1-15.

Kef Kalesi (Figure 10)[75], Anzavurtepe (Figures 8 and 9)[76], Giriktepe[77], Aşağı and Yukarı Anzaf (Figure 11)[78], Yoncatepe (Figure 12)[79], Giyimli (Hirkanis), Ernis/Evditepe, Dilkaya, Karagündüz, Altıntepe/Van and Altıntepe (Figure 13) (Map 4).[80] However, with the exception of Altıntepe, Karagündüz, and the recently investigated site of Ayanis (Figures 14, 33 and 47), the other sites were either poorly excavated or were published only as brief reports. It should also be noted that excavations at Toprakkale and Van Kalesi were conducted without any attempt to understand the stratification of the sites, and although many fine artefacts were recovered from them, no clear picture of their occupation histories resulted and botanical and faunal remains were generally ignored.[81]

Turkish archaeologists generally concerned themselves with site descriptions and the categorisation of artefacts from eastern Anatolia. These methodological approaches of 'Turkish school' seem to have been influenced by German classification methods.[82] After abandoning the Kossina's ethnic paradigm[83] that had been used to justify the aggressive expansionism of the Nazi regime, German archaeology in the post-war era was oriented towards a more descriptive method with emphasis on typology and chronology.[84] In the early days of Turkish Republic a number of influential Turkish archaeologists were sent to Germany to be educated. In regard to the archaeology of Urartu, Afif Erzen was to play a significant role and influence the next generation of Turkish archaeologists, who with Ekrem Akurgal and Sedat Alp, was sent to Germany in 1933 and received his PhD at the University of Leipzig in 1940; he was subsequently employed by the University of İstanbul.[85] The impact of German methodological traditions was then maintained by those Turkish archaeologists.[86]

[75] Bilgiç and Öğün 1964: 65-120; 1965: 1-20.
[76] Balkan 1960: 133-158.
[77] Balkan 1964: 235-243.
[78] Belli 1999a.
[79] Belli and Konyar 2001a and 2001b.
[80] Özgüç 1966, 1969.
[81] Zimansky 1985: 7.
[82] Greaves 2010: 34-35; Atakuman 2008.
[83] Trigger 2008: 235-241.
[84] Härke 1989: 406-407.
[85] Tarhan 1996: 1-19.
[86] After the failure of the 'Turkish History Thesis' and the 'Sun-Language Theory', which were used to prove that Turks had been living in Anatolia for thousands of years during the early days of Turkish Republic (Atakuman 2008), the concept of 'Anatolianism' was developed through 1950's and 1960's (Kuban 2003). The Anatolianist approach, which is still widely embodied in Turkish archaeology, is defined with respect to historical and geographical factors, emphases the importance of ancient Anatolian cultures and synthesis of the arrival of Turks to Anatolia in 1071 AD and the modern Turkish State.

However, scholars such as Oktay Belli[87]and M. Taner Tarhan[88], who were influenced by Soviet Marxist scholars such as Melikishvili and Diakonoff, produced a series of articles examining the role of the central authority in the organisation of economic resources and their redistribution. In these studies, they suggested that the Urartian state was governed by a centralized government that dominated all parts of Urartian society. Tarhan[89] and Belli[90] suggested that the Urartian state was monarchical and that a strong and powerful king governed the whole country. As a symbol of this absolute authority, everything was built 'in the name of the king' including all new cities, fortresses, temples, palaces, dams, and canals.[91] These newly built centres were then connected by a complex network of roads to the central parts of the kingdom. By connecting these centres with a large network of roads, the authority and control of the kingdom could be extended beyond the core of the realm.[92] Tarhan argued that the economy was entirely organized by the state and all forms of production were under state control.[93] As well as having military and administrative functions, the newly established centres were also responsible for economic organization. However, as is with Marxist scholars of Urartian archaeology, Turkish scholars also failed to recognise the possibility of regional variations that may have existed or temporal changes that may have occurred over the course of the kingdom's lifetime. It is now clear that there were changes over the course of its history, relating to regional variations in socio-economic and administrative structure, as well as to the importance of physical geography and climate of eastern Anatolia, Caucasia and northwest Iran.

I.4.3. Bastam: The Western School of Urartian Archaeology

Urartian expansion into north-western Iran began in the early 8th century BC, but this region of Urartian territory did not attract the attention of scholars until 1960 when the Lake Urmia basin was investigated by Wolfram Kleiss of the German Institute of Archaeology in Tehran. Kleiss, assisted by Stephan Kroll, published his surveys annually in the *Archäologische Mitteilungen aus Iran*, and his work revealed the existence of numerous Urartian period sites in north-western Iran. As in the case of Karmir-Blur and Çavuştepe,

[87] Belli 1978, 1982: 188-190.
[88] Tarhan 1983; 1986: 287.
[89] Tarhan 1983; 1986: 287.
[90] Belli 1978; 1982.
[91] Belli 1982: 189.
[92] Tarhan 1986: 295.
[93] Tarhan 1986: 396.

Bastam (Figure 15)[94] (the German Institute of Archaeology in Tehran) and Hasanlu (Figures 16 and 17)[95] (the University of Pennsylvania Museum) became the training ground not only for Urartian, but also for many ancient Near Eastern scholars. In addition to these two sites, archaeological excavations were also undertaken at multi-period sites such as Haftavan[96], Qalatgah[97], Dinkha Tepe[98], Agrap Tepe (Figure 18)[99] and Qaleh Ismael Agha (Maps 3 and 4).[100] Archaeological research in this part of the Urartian territory unfortunately came to an end - with the exception of an Italian survey in north-west Iran[101] - following the Islamic revolution of 1979 in Iran.

Mirjo Salvini, Charles Burney and Paul Zimansky (a member of the Bastam project) have written extensively on Urartian history and material culture. Salvini was extensively involved in the discovery and publication of numerous inscriptions as well as the re-examination of previously published inscriptions. Recently, Salvini[102] published a four volume work dealing with Urartian cuneiform inscriptions. Equally important was the work of Burney in eastern Turkey, who travelled the central Urartian region of Urartu and identified many sites and Urartian inscriptions[103] and thereby re-awoke academic interest in eastern Anatolia.[104] On the other hand Zimansky's work concentrated on the socio-economic structure of Urartian state (*Ecology and Empire: The Structure of the Urartian State*) and is still one of the most influential and widely regarded studies of the kingdom.

Zimansky[105] argued that the theories presented by Russian scholars (especially in regards those of Melikisvhili and Diakonoff) were not sufficient to explain the character of Urartian state institutions in that they largely ignored the archaeological evidence in favour of rather ambiguous interpretations of the textual evidence. He pointed out that the political and economic structure of the Urartian kingdom would be better analysed by understanding it as an adaptation to its environment and that it was shaped by two main factors: the constant threat of the Assyrian army, and the protection presented by eastern Anatolia's topography

[94] Kleiss 1979, 1980, 1988.
[95] Dyson 1965: 193-217; Dyson and Muscarella 1989: 1-27.
[96] Burney 1970: 157-171; 1972: 127-142.
[97] Muscarella 1971: 44-49.
[98] Muscarella 1974: 35-90.
[99] Muscarella 1973: 47-76.
[100] Silenzi 1984: 215-220.
[101] Pecorella and Salvini 1982: 1-35; 1984.
[102] Salvini 2008; 2012a.
[103] Burney 1957; Burney and Lawson 1960.
[104] After his survey Burney excavated the site of Kayalıdere for a single season in 1966 (Burney 1966).
[105] Zimansky 1985: 3.

and climate.[106] The threat posed by the Assyrians was very real and in order to protect its territory and survive the campaigns of the Assyrians, a decentralized system had been developed by the Urartians. Although the central bureaucracy penetrated all levels of Urartian society, productive and distributive activities remained decentralized.[107]

Zimansky used the known archaeological evidence from the Lake Urmia basin to test his hypothesis in which he first defined the various types of sites, arrange them into groups and then explored the relationship of those sites to each other and then to their natural surroundings. He then applied statistics and typologies to illustrate the distribution of sites on maps. The statistical method and approach used to interpret the archaeological evidence by Zimansky is within the framework of 'New Archaeology' or 'Processual Archaeology'[108] which was a highly influential methodological and theoretical approach in postwar Anglo-American archaeology until the 1990's. The New Archaeology emerged as an alternative to the traditional culture-historical approach which was previously widely practiced among archaeologists.[109] The culture-historical approach focused on using typologies and distribution maps to arrange archaeological materials into archaeological groups and cultures in time and space.[110] Emphasis was placed on migration and diffusion in order to explain the observed changes between cultures and all synthesis tended to be descriptive, without explanation.[111]

The New Archaeology emphasised the need to explain and not just describe archaeological materials but also to adopt a scientific methodology into archaeological practice.[112] Consequently the need to use a scientific approach or to embrace new scientific, geographic, statistical, and mathematical techniques was stressed.[113] However dissatisfaction with specific elements of the New Archaeology, such as its spurious claim to use 'scientific' methods, the use of scientifically proven evidence in order to produce results and generalisations as well as the functionalist account of human culture and social organisation led to the emeregence of a new, 'Post-Processualist', approach.[114]

However Adam T. Smith challenges Zimansky's decentralized hypothesis and argues that reliance on written sources might be justifiable for the area closest to the Assyrian border

[106] Zimansky 1985: 3.
[107] Zimansky 1985: 32.
[108] Trigger 2008: 392-444; Johnson 2010: 21-34.
[109] Trigger 2008: 235-269; Hodder and Shanks 1997: 3-6.
[110] Johnson 2010: 19-20.
[111] Johnson 2010: 19-20.
[112] Johnson 2010: 26.
[113] Sabloff 2005: 212-219; Johnson 2010: 26; Champion 1991: 129-134.
[114] Trigger 2008: 444-445; Hodder 2005: 2007-212; Hodder and Shanks 1997: 3-6; Champion 1991: 134.

but that on the Ararat Plain there is little archaeological or textual evidence for a division between 'a royal administration and semi-redundant set of provincial administrators'.[115] Smith argued that the kingdom's provinces in the Ararat Plain were an exception to this generalisation, and that the division between royal and provincial administration presented by Zimansky likely showed regional variations.[116] Smith goes on to argue for the existence of two different governmental structures: an earlier 'imperial' period for the 8th century BC, and a 'reconstruction' period for the 7th century BC, based on Urartian settlements in the Ararat Plain.[117] By using his measure of relative asymmetry for the organisation of space within the Urartian fortress, Smith argued that the religious, bureaucratic, and economic state institutions belonging to the earlier period were strictly controlled by a singular political entity in a highly integrated government within a fortress structure and, in contrast, the institutions of the later period were fragmented, lacked a coherent structure and there may even have been rivalries between the various state institutions.[118]

However, on the one hand Zimansky's decentralized hypothesis relies heavily on the absence of written evidence that deals with administrative or bureaucratic activities from Tušpa (Van Kalesi) and on the existence of such written evidence from sites such as Karmir-Blur, Bastam and Toprakkale. In this context it should be noted that Van Kalesi was poorly excavated and most of the structure that remains from the Urartian period was mostly destroyed during the early twentieth century. However, on the other hand Smith uses evidence only from the Ararat Plain, where the Urartian period sites are located on the flat plain and the topography of the area is not an obstacle for the organisation of space within sites. Smith's approach also ignores recently excavated Urartian sites from the Lake Van basin - the centre of the Urartian kingdom where most of the Urartian period sites are located on steep rocky heights or extensions of mountainous hills, none of which is compatible with his hypothesis. Moreover, Smith's suggestions contradict administrative documents from the last period of the kingdom. The administrative documents from this period demonstrate the attempts of Rusa son of Argišti to centralise both decision making and production. However, it should be noted that Zimansky recently altered his view of decentralization and points out that there is overwhelming evidence from the 7th century BC, during the reign of king Rusa

[115] Smith 2003: 249.
[116] Smith 2003: 238-249.
[117] Smith 2003: 249-252.
[118] In his writings on landscape it can be seen that Smith is operating in a 'Post-Processual' mode, using less hard scientific data than Zimansky and more focused on perceptions and the interpretation of archaeology. This is marks a significant development in the theoretical framework of western school of Urartian archaeology.

son of Argišti, which indicates that there may have been attempts to reconstruct the kingdom.[119]

The work of Richard D. Barnett and others should also be mentioned here. Barnett[120] and others[121] work concentrated on the role of trade, the control of trade routes, and access to ore sources in their importance for the Urartian state economy (an overview of these studies will be examined in the Trade chapter below). It has been argued that in the first half of the 8th century BC the Urartian kingdom extended its boundaries to cover north-west Iran, Armenia, south-eastern Anatolia and northern Syria. By extending its control over those areas, the kingdom gained control of trade routes, and the sources of ore, thereby gaining an advantage over its arch-rival, the Neo-Assyrian state. Therefore, trade was one of the most important reasons behind the rise of the Urartian state in the 8th century BC. However, I have demonstrated in the trade chapter that such arguments are without foundation.[122]

I.4.4. Summary and Research Questions

This brief survey reveals that the history of excavation and research into the Urartian civilisation has not been systematic. Rather, there have been intermittent excavations and bursts of intense research in different parts of what was once Urartian territory at different times. These excavations have mostly been concerned with the citadels that were constructed by Urartian rulers because, at such sites, inscriptions, artefacts and architectural remains are easy to recover and these were the concern of archaeologists at the time; seeking to retrieve finds for their museum collections to construct typologies. Therefore the settlements where the majority of the Urartian population lived and the cemeteries where they were buried received little or no attention. It was only in the early 1990s that archaeologists began to start looking at the lesser known aspects of Urartian society.

This critical synthesis of the research history of the Urartian kingdom reveals that the early engagement of Soviet scholars in Urartian archaeology was to have important implications for the interpretation of the nature of the Urartian economy for Turkish archaeologists such as Belli and Tarhan. On the one hand, Soviet scholars characterized the political organisation of the Urartian kingdom as highly centralised while on the other hand, Western scholars emphasised a decentralized institutional organisation and the role played by

[119] Zimansky 2006:267-275.
[120] Barnett 1956: 229-237; 1982: 366-369.
[121] Slattery 1987: 1-30; Birmingham 1961: 191-195; Winfield 1977: 152; Levine 1976b: 171-186; Saggs 1988: 98-100; Burney and Lang 1971: 147-148.
[122] Furthermore great effort has been made in order to understand Urartian art by Maurits N. van Loon (1966) and Guitty Azarpay (1968).

trade in bolstering the state economy. However, since these arguments were formulated there have been further developments in Urartian archaeology and there is now a great volume of material from excavated sites, which can help to shed new light on some of the main theoretical issues of Urartian archaeology.

Therefore this thesis broadly aims to answer to following questions:

- What role did the Urartian kingdom, and in particular the monarch, play in the organisation of economic resources?
- Is there any evidence to indicate that the Urartian monarch was involved in the organisation, redistribution and the storage of economic resources as was argued by Soviet scholars?
- What kind of socio-economic structure existed within the Urartian kingdom?
- How were the administrative divisions of the Urartian kingdom organised, and was there a central government? If so, to what extent did it orchestrate the relationships between the divisions?
- Are there any regional variations in terms of the organisation of administrative structures and economic resources?
- What role did the Urartian monarch play in the formation of the kingdom, and in its economic development, military, religious life and construction activities?
- What were the roles of the Urartian kingdom in the organisation and production of metallurgy and the relationships of mining, smelting and manufacturing to the socio-economic development of state?
- What were the aims and objectives of the mass deportation of war captives and what were the economic consequences of this action?
- What role did the Urartian army play in the acquisition of economic resources?
- What particular of factors were most important in shaping the political and economic institutions of the Urartian kingdom?

These questions will be addressed throughout thesis. Having conducted this critical review of the history of Urartian archaeology and the evolution of archaeological methods and the on-going development of the theoretical paradigms within which scholars of the region have worked, it is clear that there are many different intellectual influences and cultures-of-practice are at work within the history of Urartian studies. This awareness alone, makes it clear that this current study can be described as being broadly ‘Post-Processual’ in character because it is informed by an awareness that the ‘data’ that archaeologists generate

and how they interpret those 'data' are products of the archaeologists and their societies themselves, not objective facts or 'truths'. An illustration of this is the fact that archaeologists have historically focussed their attentions on citadel sites, in order to find artefacts for their museums and to support their typological studies, but the preponderance of elite materials then led others to interpret the culture as being highly focussed into the hands of a small elite or central authority. To date no true settlement sites, similar to the höyüks found across Anatolia have yet been excavated in Urartu[123] (with the exception of Van Kale Höyük)[124] and, for the time being at least, our dataset is inevitably skewed toward evidence from the elite centres, but our interpretations of Urartian society need not be. In the chapters that follow, I will critically assess the evidence base for previous interpretations of the evidence, paying particular attention to the underlying assumptions made by scholars in their presentation and interpretation of that evidence.

[123] Both Karagündüz (located 35 km southwest of Van on the eastern shore of the Lake Erçek), and Dilkaya, (on the southern shore of the Lake Van), were excavated as a result of rising water levels from nearby lakes. Rescue excavations from both sites recovered a very badly damaged Urartian period occupation level (Sevin and Özfirat 2001:142-143 and Çilingiroğlu 1992: 472).
[124] Konyar 2011: 147-166.

PART II

CONTROL OF CAPITAL IN URARTU:
ECONOMIC RESOURCES AND MOVEMENT OF COMMODITIES

II.1. ARABLE AGRICULTURE

II.1.1. Introduction*

This chapter addresses the agricultural activities of the Urartian kingdom by analysing the written material from the Urartian and Assyrian periods, the archaeological evidence from excavated Urartian sites, and ethnographic data drawn from modern agricultural communities in the highlands of eastern Anatolia, Armenia and north-west Iran.

Written evidence for agricultural activities exists in the form of cuneiform inscriptions that reveal that Urartian rulers built vast irrigation canals and reservoirs to increase crop yields. We can further compile evidence for the study of Urartian agriculture by analysing data collected from excavated sites and using the comparative analysis drawing on modern agricultural practices in the region that may help us to understand the possible adaptive strategies employed by the Urartians between the 9th and 6th centuries BC.

II.1.2. Irrigation

II.1.2.1. Geography and Hydrology of the Urartian Territory

In Part I the physical geography and climate of the Urartian territory was presented but because these two placed limitations on agriculture activities it is still necessary to review the specific rainfall patterns, climate, and surface water hydrology of the region in detail before discussing the archaeological and textual evidence for Urartian irrigation facilities.

Pollen analyses from Lake Van suggest that[1] there were significant climate changes from 13000 BC onward, and from around 2000 BC increasingly arid conditions similar to today's climate were established. Pollen analyses for the second and first millennia BC indicate that there was also a fluctuation in the level of humidity. However, after a short period of cold and humid climate, around 1000 BC there was a warm and dry period with a low peak of humidity around 850 BC[2], similar to today.

Prior to the formation of the Urartian state, in the highlands of eastern Anatolia, the Ararat Plain of Armenia and north-west Iran animal husbandry was the main source of income for the local tribal communities (see Chapter II.2). However, with the rise of the

* A section of this chapter was published as A. Çifçi, and A. M. Greaves (2013) 'Urartian Irrigation Systems: A Critical Review' in *Ancient Near eastern Studies* 50: 191-214.

[1] Wick *et al*. 2003: 663-675.

[2] Issar and Zohar 2007: 194.

Urartian kingdom, arable agriculture gradually replaced animal husbandry as the primary source of wealth. This transition was effected by a centralised irrigation system to support and maintain the new agricultural practice. When compared to other Near Eastern states and especially the Neo-Assyrian Empire and Babylonia (Map 1), the land available for intensive cultivation in Urartu was relatively small and with a short growing season, where irrigation was put in place crop yields were high.

The area that constituted the Urartian territory (eastern Anatolia, north-west Iran and the Aragat Plain) had fairly plentiful water resources due to rainfall in late spring, May and early June. As a result of the precipitation in some of the regions, it was possible to practice dry agriculture without irrigation (see Table 3). However, the greater part of Urartian territory would not have been able to be so intensively developed without an adequate irrigation system in place. The water in the rivers and small streams of the mountainous regions of eastern Anatolia and north-western Iran are predominantly sourced from melting snow and spring rainfall. Although the available arable land in the small narrows valleys and alluvial plains is fertile, successful agriculture in the greater region required irrigation.

The extreme variations in topography, the short growing season (which is limited to a few months in the spring and summer), and the lack of adequate topsoil in eastern Anatolia have a significant impact on agricultural activities here. Due to insufficient spring and winter rainfall there are often partial or complete crop failures in parts of eastern Anatolia, Armenia and north-west Iran where irrigation systems are not in place to support cultivation. As a result of these arid conditions dry farming in Urartian territory was practiced only where there was sufficient rainfall, and large scale irrigation canals and water reservoirs were created by the state in areas where the rainfall was insufficient for agriculture; areas such as Lake Van, Lake Urmia, the Araxes River and in the Upper Murat River drainage areas (see II.1.4).

Irrigation requires a large amount of retained water to which the Urartian territory was not particularly well suited. The endorheic Lake Van[3] (i.e. it is enclosed, with no outlets) contains such high concentrations of sodium carbonate that its waters is highly alkali (pH 9.7 - 9.8) and neither drinkable nor suitable for agriculture.[4] Another large lake in the region, Lake Urmia, is saline and also unusable. The region's third main body of water, Lake Sevan, is a freshwater lake, but there is no archaeological or written evidence to indicate that the

[3] The level of Lake Van has fluctuated over time in response to changing environmental factors (Kadıoğlu *et al*. 1997; Wick *et al*. 2003; Kuzucuoğlu *et al*. 2010).
[4] Degens *et al*.1984; Eimanifar and Mohebbi 2007.

Urartians used its waters for irrigation. For this reason, the streams that run off Erek Mountain (^{KUR}*Qilbani*) (3200 m), which lies in the eastern part of the Van Plain, appear to have been one of most the important sources of water for the region, and they seem to have been effectively used by the Urartians during the first millennium BC.[5]

II.1.2.2. Archaeological Evidence

Urartian period water construction facilities around the Lake Van basin have attracted the interest of Urartian archaeologists since the second half of the 20th century.[6] More recently Oktay Belli has undertaken systematic research in eastern Anatolia in order to identify Urartian dams, irrigation systems, and reservoirs, of which a large part of his research focused on the agricultural infrastructure of the Lake Van basin.[7]

Belli observed that a correlation is apparent between the location of Urartian period defended structures and the provision of water facilities. He inferred from this pattern of distribution that the Urartians constructed their fortresses close to water facilities in order to manage, maintain and protect them.[8] As examples of this, Belli cited the Aşağı Kevenli fortress that lies close to the Kilise Gölü dam; Yukarı Kevenli fortress that is close to the Kevenli dam and the site of Zivistan that is near the Azab reservoir.[9]

One of the most interesting sites relating to the development of Urartian water facilities is that of Lake Aygır in north-western Van, where terracotta water pipes and stone channels were laid down in order to carry out water from the artificial lake.[10] The Aygır reservoir provided water for land that lay between the southern slopes of Süphan Mountain and Lake Van. The excavator of Anzavurtepe, Kemal Balkan[11] has noted similar terracotta pipes, and has suggested that they were used to collect water for the citadel, from the Kumocağı[12] stream which lay some two kilometres east of Anzavurtepe. A recently discovered water reservoir east of Ayanis fortress, 2002 m above sea level, is also believed to have supplied water to the lower town and citadel of Ayanis by means of a system of stone pipes.[13]

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[5] Belli (2001b: 359) states that he identified 14 dams and reservoirs of the Urartian period around Erek Mountain.
[6] Laessøe 1951: 21-32; Öğün 1970; Burney 1972a: 179-186; Garbrecht 1980: 306-312, 1988: 185-198; Zimansky 1985: 66-70, Salvini 2001a: 143-155; Harutjunjan 1964: 11-53.
[7] Belli 1994a: 9-30, 1994b: 77-115, 1997, 1999b: 11-26, 2001b: 358-364.
[8] Belli 1994b: 92, 94, 105; 1999b: 20.
[9] Belli 1994a, 1994b, 1999b.
[10] Belli 1994b: 108-109, Figs. 29: 2, 31: 1-2, 32.
[11] Balkan 1960: 137.
[12] Balkan 1960: 137 no. 17.
[13] Altan Çilingiroğlu speaking at International Symposium on East Anatolia-South Caucasus Cultures, Erzurum/Turkey, 10 October 2012 and *pers. comm*.

Since arable land around the Lake Van basin (*i.e.* the Van, Muradiye, and Gürpınar plains) is not always easy to irrigate with natural water sources it was necessary for Urartian kings from the reign of Minua onwards to construct numerous artificial reservoirs in order to irrigate the fertile soils of these areas (see Table 1). Examples of these artificial reservoirs include the Yukarı Anzaf dam constructed to the east of the Yukarı and Aşağı Anzaf citadel, built by Minua. This dam was intended to provide water for the land around the citadel located there and was fed by rain and snowmelt.[14]

There are generally few archaeological data from north-west Iran regarding the construction of canals or reservoirs. At Bastam, Kleiss[15] noted the importance of the Aq Çay's water for the Qara Zia Eddin Plain as well as a canal (Figure 19), which he suggested might be Urartian in date and irrigated the land around Bastam. Furthermore, in the Solduz valley, where the site of Hasanlu (*URU Mešta*) is located, there was a network of irrigation canals suggesting that the Gadar River was crucial for agricultural activities in the area.[16] However, we do not know for certain if the canals mentioned by Vaughn E. Crawford[17] were used during the Urartian period. Lastly, a canal that is still in use today appears to have provided water to the site of Qaleh Ismail Aga from the Nazlu Çay.[18]

II.1.2.3. Textual Evidence

Cuneiform inscriptions indicate that king Minua was actively engaged in the construction of water reservoirs (*šu-e*), fountains (*ta-ar-ma-ni-li*)[19] canals (*pi-li-e*) and cisterns (*gie*)[20] at his capital of Tušpa and elsewhere. This was evidently one of the king's priorities, as he controlled extensive territory with an already large and growing population, and increased agricultural production in the central part of his kingdom would have been vital for sustaining that population.

One of Minua's greatest engineering achievements was the construction of the Minua Canal (*m Mi-nu-a-i pi-li-e*), which runs for some 51 km from the Mount Başet area of the

[14] Belli 1994b: 82-84.
[15] Kleiss 1980: 299.
[16] Crawford 1961: 85.
[17] Crawford 1961: 85.
[18] Silenzi 1984: 218.
[19] Van Kalesi A 5-58 A-B-C/ UKN 92 a-c; Ain-e Rum A 5-5 9 A-D.
[20] Until recently, it was widely assumed that the term *gie* in the Bostankaya inscription of Minua refers to storage facilities for liquids (Zimansky 1985: 73-75; Payne 2005; Sağlamtimur 2005: 140). But *gie* has recently been proposed by Salvini as being a word for a 'cistern' for the storage of water (Salvini 2001a: 144; 2010: 362). In support of his argument Salvini points out that at Bostankaya, which is the location of this inscription (A 5-67 / UKN 79), there are two rectangular cistern mouths cut into the rock for rainwater, dismissing the idea that *É gie* represents storage for liquid.

Artos Mountains to the city of Van. The water-course of the canal begins as spring water from the village of Yukarı Kaymaz which runs to Hoşap (Engil) Çayı following its natural course and from there it is then transported by an aqueduct over the Hoşap stream into a canal averaging 3.5-4 m wide and 1.5-2 m deep (Figure 23). The average flow of water is estimated to have been between 3 to 3.5 m^3 per second,[21] this flow was greater than that of any of the largest aqueducts in the city of Rome at the peak of its population in the first century AD.[22] For the most part the canal is carved into solid bedrock and there are walls measuring 11 m in height in some areas of steep valleys and slopes in order to contain the water (Figure 24). The Minua Canal helped to ensure the successful development of agriculture, horticulture and viticulture in the central areas of the Urartian kingdom and, remarkably, the canal is still in use today approximately 2800 years after its construction (Figure 22).

There are 14 inscriptions visible along the course of the canal stating that it was constructed during the reign of king Minua (Figure 56).[23] Most of these inscriptions are located in Kadembastı Mevki and Edremit districts. One example reads:

'Thanks to the power of Haldi, Minua son of Išpuini constructed this canal. 'The canal of Minua' is its name. By virtue of the greatness of Haldi (I am) Minua, powerful king, great king, king of the land of Biainili, ruler of the city of Tušpa.

Minua says: whoever destroys this inscription, whoever damages it, whoever else causes these things to be done, whoever else says: "I constructed this canal", he will be annihilated by Haldi, Teišeba, Šivini and (all) of the gods under (the light) of the sun' (A 5-12C / UKN 45).

This inscription from Aşağı Kaymaz, clearly states that the canal was built by Minua. Apart from the main content, there is a curse formula for anyone who would attempt to destroy the inscription and royal titulary[24], but the rest of the content is the same, simply stating who built the canal and what was its name.[25] By constructing this canal, it is quite clear that Minua's intention was not only to provide water to the city of Van, but also to provide water for the agricultural needs of the population over vast areas lying south and

[21] Öğün 1970: 12.
[22] Anio Novus approximately 2.27 m^3 per second; Aqua Marcia approximately 2.25 m^3 per second; Aqua Claudia approximately 2.21 m^3 per second, see Blackman 1978; Bono and Boni 1996.
[23] A 5-12 12A / UKN 43, A 5-12 B / UKN 44, A 5-12C / UKN 45, A 5-12D / UKN 46, A 5-13 / UKN 47, A 5-14A / UKN 48, A 5-14B / UKN 49, A 5-14C / UKN 50, A 5-14D UKN 51, A 5-15A / UKN 52, A 5-15B / UKN 53, A 5-15C / UKN 54, A 5-15D / UKN 55 and A 5-15E / UKN 56.
[24] A 5-12 12A / UKN 43, A 5-12 B / UKN 44, A 5-12C / UKN 45 and A 5-13.
[25] A 5-12D / UKN 46, A 5-14A / UKN 48, A 5-14B / UKN 49, A 5-14C / UKN 50, A 5-14D / UKN 51, A 5-15A / UKN 52, A 5-15B / UKN 53, A 5-15C / UKN 54, A 5-15D / UKN 55 and A 5-15E / UKN 56.

south-east of the city, supplying the numerous fields of vineyards, orchards and intensively developed agricultural areas.

For the site of *Rusaḫinili* (Toprakkale) on the east of the Van Plain close to Erek Mountain, king Rusa (II), son of Erimena (see Appendix for the chronology of Urartian kings), constructed one of the largest reservoirs in the region, known as 'Lake Rusa' (*^{m}Ru-sa-a-i ṣu-e*) (Turkish: Keşiş Göl). Both the Gövelek and the Keşiş Göl[26] inscriptions[27] state that Rusa II built the reservoir and had dug a canal to his new city, irrigating along the way the newly established vineyards, orchards, and fields along its length (Figure 25). The inscription states that he diverted some of the water from the *Alaini River* [28] to the city of Tušpa.[29]

North-west of Lake Rusa (Keşiş Göl) there is also a large reservoir called the Sıhke dam[30], formed from the slope of Erek Mountain which checks the strong flow of water from Lake Rusa and irrigates land extending towards Tušpa.

Urartian cuneiform inscriptions regarding the territory lying to the north-east, north-west and south-east of Lake Van, in the area around Erciş and Muradiye, indicate that Urartian kings were concerned with the development of these plains and built new settlements, water reservoirs and canals to supply the towns located here. For example, in the Gürpınar Plain the inscription of the Çavuştepe temple[31] indicates the construction of canals for irrigation; in the Erciş Plain the inscription of Tırmıklı Kilisesi[32]; in the Muradiye Plain Karahan[33] and Muradiye[34], in the Malazgirt Plain Adalak[35], Hotanlı[36], and Koçaklar[37] inscriptions all concern the construction of canals for the irrigation of those areas.

An inscription found on Akdamar Island near the southern shore of Lake Van, which was evidently not *in situ*[38], states that Minua constructed canals in the territory of *Aḫiunikani*,

[26] A 14-1 / UKN 268.
[27] Salvini points out the similarities of both inscriptions and suggests that the Gövelek and Keşiş Göl stelae are in fact parts of the same inscription and called Keşiş Göl 1 and Keşiş Göl 2 (Salvini 2006b: 212-214).
[28] Öğün (1970: 25 no 56) suggests that *Alaini* should be identified with Değirmendere Çayı.
[29] Garbrecht 1988: 192.
[30] Belli 1994b: 109-112.
[31] The inscription mentions the building of Irmušini temple (Figures 50 and 57) and city of Sarduruḫinili (Çavuştepe) by Sarduri II and the construction of canal from *Gugunai River* [Hoşap Irmağı] (A 917).
[32] '*Through the might of the god Haldi, Minua son of Išpuini says: I built this canal in the (this) land. From the region of Alia city, from Quera River to Dainalitini River he brought the canal. Minua constructed this canal and built a city*' A 5-17 / UKN 58. Burney suggested that the name of river *Dainalitini* (*Dainala*) should be Zilan Deresi in Erciş (Burney 1972a: 182); also see Zimansky (1985: 119 no 131).
[33] A 5-24.
[34] A 5-16 / UKN 57.
[35] A 5-20 / UKN 59.
[36] A 5-21 / UKN 60.
[37] A 5-22 / UKN 61.
[38] Melikishvili has suggested that the inscription might originally have come from the vicinity of Dilkaya (Hurkum), 15 km south-west of Edremit (Melikishvili 1960: 177; Diakonoff and Kashkai 1981: 5, 4, 100),

in Minuaḫinili, in Aiduni and in the land of *Uišini* (*Uishini*).[39] The city mentioned by the Assyrian king Sargon II in his eighth campaign was named as *Uajais* and also appears in numerous Assyrian letters as the variants *Ueši* and *Uaši*.[40] The city was evidently associated with the Urartian army and *Uajais* was mentioned as a *nagu* (province) of Urartu by Sargon II. A damaged inscription of Minua from Qalatgah also mentions a city called *Uiše* in an unknown context (A 3-10 line 5). However, the great distance between the find spot of the Akdamar inscription and the site of Qalatgah in north-western Iran and the different written forms of *Uišin, Uajais,* or Uiše cast some doubt on the idea that these names should be indentified with a single city. It is therefore possible that there were actually two different cities, with one named *Uišini* and the other known as *Uajais* or *Uiše*. Therefore, one might accept a location for the latter in Qalatgah in the Ushnu Plain, as suggested by Zimansky and others[41] and for the former, a location either on the eastern or south-eastern shore of Lake Van basin in the vicinity of Gevaş has been suggested.[42] However, it is also known that Urartian kings spoke about their various construction works in the same context, as in the case of Akdamar inscription, where Minua also mentioned canals that he built in different locations such as *Aḫiunikani*, *Minuaḫinili* and *Aiduni*. Therefore, it is still possible that the city of *Uajais* / *Uiše* or *Uišini* is located in north-west Iran at Qalatgah.

On the reverse of the Çelebibağı inscription and the front of the Hagi inscriptions, Argišti II stated that after he had ascended to his father's throne, he engaged in construction activities in the area around modern Erciş, where he built a city in his own name and a reservoir and water canal to irrigate the surrounding areas, as follows:

'*Argišti says: near the city of NA$_4$.ANŠE, before Mountain Quria, the earth was wilderness, nothing, neither fields of grain, nor vineyards, nor orchards were there, no canal was cut; as soon as Haldi ordered it, I created Asuaḫina Lake'* (A 11-1 / UKN 275).

'*I founded villages (cities) here. I made men ... from the city of Argištḫinili before Mountain Artarapša. Argišti, son of Rusa, says: of these same villages (city) this canal*

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whereas Zimansky (1985: 67) has argued that the name of *Uišini* should be identified with the site of Qalatgah in north-west Iran from where he believed the inscription originated.

[39] '*[…] the city of Aḫiunikani near the land of Erinui, and the city of Minuaḫinili. I arrived at the river of (?) the land of Aiduni; in (?) the entire place I cut a canal. (For the) city of Uišini, for the entire place, I cut a canal. Minua says: [...]'* (A 5-23 Vo / UKN 62).

[40] SAA V 86: 9, 87: 5, 89:10, 93: 2, 112: 3, 133: 12, 164: 7, 167: 3.

[41] See also Muscarella (1986: 472-75) who identifies Uasi/Uajais with Qal'eh Ismail Aqa in the Urmia Plain; whereas Pecorella and Salvini (1982: 16-17), Wilson (1962: 109-110), van Loon (1975: 206-207) and Zimansky (1985: 112 no 64; 1990: 16-17) identified it with the plain of Ushnu and located it at Qalatgah.

[42] Maurits van Loon, who published the Qalatgah inscription, also argued for the possibility of an 'Old Uajais' and the existence of a city called Uishe on the southern shore of Lake Van (van Loon 1975: 205).

constitutes fertility(?). There was absolutely(?) no ... order for these same villages… both the waters of the lake ... of this same valley(?) as well as the fertility(?) wealth(?). ... Argišti says: the river before (?) the city(?) of Ali(?) ... to give(?), ... to order(?) the vale(?) of the valley(?) of Argišti (A 11-2 / UKN 276).

The Urartian presence in Transcaucasia and the Lake Sevan basin began with the construction of the city of Minuaḫinili (Taşburun) by Minua, located between the Ararat Mountain and the Araxes River. It was king Argišti I who first brought the Ararat valley and Lake Sevan basin under the control of the Urartian kingdom. In the Sardarabad inscription he stated that he built four canals from the left bank of the Araxes in order to bring water to the city of Argištinḫinili[43] (Armavir) and to the Araxes valley. The Horhor Chronicle[44] and the Surp Sahak Kilisesi[45] inscriptions indicate that Argišti I constructed a canal from the Araxes River to the land of ’Aza.

As in the case of the Van Plain, on the Ararat Plain agricultural activities required adequate irrigation to support crops, vineyards and orchards (Figures 3, 29 and 30). Rusa (III), son of Argišti, constructed a canal in the vicinity of Karmir-Blur[46], which was commemorated in the Zvartnots[47] inscription and was known as ‘*Umešini*’.[48] This canal ran out from the *River Ildarunia* (the modern Hrazdan) and was intended to provide water to the uncultivated valley of Qublini where Rusa claimed to have established vineyards, orchards and fields of crops (present day Etchmiadzin in Armenia). It is also interesting to note that when the canal was used for the irrigation of fields, sacrifices were made to the supreme triad of Urartian gods; Haldi, Teišeba and Šivini.

Although there are no Urartian inscriptions regarding reservoirs or canals in north-western Iran, as mentioned above, there is an inscription of Minua from Ain-e Rum/Ezdaha Bulaqi 18 km north of the Ushnaviyeh Plain, near Qasemlu Čay, which mentions the construction of a fountain.[49] However, Sargon II’s eighth[50] campaign against Urartu in north-western Iran provided a description of the water supply system built by Rusa (I), son of

[43] A 8-16 / UKN 137.
[44] A 8-3 IV lines 72-73 / UKN 127 IV.
[45] A 8-2 Ro / UKN 128 B2 41-42.
[46] Piotrovsky 1969 Fig.31.
[47] Zvartnots is 20 km west of present day Erevan. Piotrovsky believes this stele stood once near the Urartian city of *Teišebai* (Karmir-blur) (Harutjunjan 1964: 47).
[48] A 12-8 line 15 / UKN 281.
[49] A 5-59 A-D.
[50] Zimansky 1985: 40-47; 1990: 1-21; Levine 1977a: 135-151; Pecorella and Salvini 1982: 1-35; Muscarella 1986: 465-475.

Sarduri, at the city of Ulhu in Sangibatu province in a letter to the god Assur Ulhu (see II.1.6 for detailed discussion).

II.1.2.4. Assessment of Archaeological and Textual Evidence on Irrigation

There is no doubt that Urartian kings were actively engaged in the development of irrigation facilities in their newly conquered lands. By analysing the written sources from the Urartian state, it seems that in parallel with the expansion of their state boundaries, Urartian rulers engaged in rebuilding activities in specific areas. Building inscriptions that relate to the construction of water facilities are confined to the reigns of Minua, Argišti I, Sarduri II, Argišti II and Rusa II and are mostly located in the Lake Van basin and Ararat Plain (see Table 1). There is only one inscription that mentions the construction of a reservoir and canal by Rusa II,[51] whereas Minua evidently constructed the majority of water facilities. Interestingly, with the exception of a fountain at Ain-e Rum near Lake Urmia, the water facilities constructed by Minua appear confined to the Lake Van basin, which might reflect the boundaries of the Urartian kingdom at that time. By contrast, the water facilities constructed by Argišti I, Sarduri II and Argišti II extended across the Ararat Plain and the Lake Van basin. It is, however, interesting to note the absence so far of either archaeological[52] or textual evidence for Urartian water facilities on the Elazığ Plain and its environs, which stands in contrast to other archaeological remains and texts that suggest that the number of settlements increased in the Elazığ region and its vicinity under Urartian rule.[53]

Charles Burney[54] has discussed the possible motives behind Urartian rulers' engagement with artificial water facilities, such as growth of population, decline in rainfall and political reasons. With political stability in particular around the Lake Van basin, there is an increase in the number of settlements, dated to the Urartian period as opposed to the second millennium BC, which features fewer settlement. Is it possible that this was because there was much less rainfall in the Van region? This is in contrast to the preceding second millennium BC, when there were evidently fewer settlements here.[55]

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[51] A14-1 Ro.
[52] Sevin 1986; 1987; 1988.
[53] Palu (A 5-5 / UKN 39), Bağın (A 5-8 / UKN 42), İzoli/Habibuşağı (A 9-4/ UKN 158), Bahçecik (A 9-18) and Mazgirt-Kaleköy (A 12-6 /UKN 279) inscriptions from Elazığ and its environment as well as Patnos Aznavurtepe (A 5-11A), Argišti Annal (A 8-3 II / UKN II 127 II), Surb Sahak (A 8-1 Vo / UKN 128 A2) and Surb Pogos (A 9-1 Vo / UKN 156 C) inscriptions mention the activities of Urartian in the region. Archaeological (Sevin 1986; 1987; 1988) remains from the region also indicate that under Urartian occupation, the number of settlements increased in the Elazığ region and its vicinity.
[54] Burney 1972a: 180-83.
[55] Özfırat 2006, 2007.

One of the first issues to be encountered by researchers is the origin of the so-called *qanat* system. For example, in 1951 it was argued by Jørgen Laessøe[56] that Sargon's description of his destruction of the Ulhu water system should be identified with present day water systems known as *qanat*.[57] It has been suggested that such systems may have originated in Iran as far back as the first millennium BC.[58] *Qanat* systems collect ground water using a network of horizontal underground tunnels, which is then accessed at key points via vertical shafts.[59] They are still widely used across the Near East today.[60] Since Laessøe[61] suggested that the Urartians may have used similar *qanat* systems at Ulhu, the possibility of Urartian *qanat* systems has been discussed by scholars of the ancient Near East.[62] Recently, Mirjo Salvini has argued that the canal and irrigation systems of the Urartian period were a uniquely local development that differed from the *qanat* systems known elsewhere in the Near East.[63] Stephanie Dalley[64] has also pointed out that the meaning of the words *silittu* (now taken to mean a branch of a canal) and *išqillatu* (meaning pebble) were not known when Laessøe proposed his *qanat* theory, to which the interpretation of the word *išqillatu* as a shaft is central.[65] Salvini and Dalley have therefore concluded that the Ulhu passage of Sargon II's account in fact refers to a network of open canals and not a *qanat*-style underground system.[66] The precise reconstruction of these systems remains a matter of debate, although the evidence for royal involvement in the construction of large-scale open canal systems and reservoirs is clear.

One of the difficulties in identifying Urartian canals and reservoirs is that, apart from isolated examples (*i.e.* Rusa Lake, Minua Canal) it is hard to assign conclusively many of them to the Urartian period.[67] Some of them may have been built during the Byzantine and

[56] Laessøe 1951: 21-32.
[57] Laessøe works on the assumption that in line 203 of Sargon's letter a noun of femine gender, possibly the word *ḫirītu*, is hidden, and should be restored in this section of the text with the word *ḫirītu* which is found in lines 221-223. This restoration led him to interpret *ḫirītu* as meaning a *qanat*. He also gave the same meaning to the phrase *mūṣê māmi* (water outlets).
[58] Mays 2010: 3-4.
[59] Hovhannissian (1973a: 12) mentions a canal called Dalma in Armenia to be a *qanat* and states that the Urartians built similar underground water systems.
[60] Öğün (1970: 14-15) mentions eight *qanat*-style undergrounds (Turkish: *kerhiz*) in the Van Plain and states that there is no evidence to associate their construction with Urartu.
[61] Laessøe 1951: 21-32.
[62] Dalley 2005: 40, 2002: 446-448; Muscarella 1986: 468-469; Zimansky 1985: 119, no 128; Salvini 2001a: 143-155; Burney 1972a: 181.
[63] Salvini 2001a: 143-144.
[64] Dalley 2002: 446-448.
[65] Dalley 2002: 447.
[66] Salvini 2001a: 145; Dalley 2002: 448.
[67] For instance Faruk Bendi, which was constructed between Keşiş Göl and Toprakkale (Rusaḫinili), is dated to the Roman period by Garbrecht (1988: 195).

Ottoman periods (for example Faruk Bendi)[68], or re-built on pre-existing Urartian foundations (such as the Doni reservoir).[69] Therefore, cuneiform inscriptions relating to such features are a more reliable source of evidence than archaeological remains lacking contextual inscription evidence.

Belli's survey of water facilities in the area around Lake Van remains the single most important study of these structures.[70] In his survey Belli identified 115 dams, water reservoirs and canals in eastern Anatolia, including two of them in Nakhichevan[71], all of which he claimed to be of Urartian date.[72] The Urartian period was clearly an important one within the diachronic history of eastern Anatolia, but it is not the only one. Without firm dating evidence, in the form of inscriptions or absolute methods of archaeological dating, they cannot be firmly tied to the reigns of specific Urartian kings, or even to the Urartian period at all. There is no doubt that the Urartians did play an important role in the construction of many of these water installations and others like them but there is lack of secure dating evidence for most of the identified facilities.

There is evidence of datable pre-Urartian systems that should give us further cause to question the default assumption that all major water management facilities and irrigation works must date to the Urartian period. This includes the stepped check dams and mudbrick sluices, intended to reduce the effects of water rushing down from the mountains, and a series of simple canals for irrigation dating to the third millennium BC at the site of Moghrablur in Armenia.[73] There is also evidence of small and large artificial water reservoirs around Mount Aragat dated to the 15th and 14th centuries BC and other water facilities around the Ararat Valley.[74]

The reliability of our key dating evidence, written Urartian sources relating to the development of canals and reservoirs, should also be cautiously examined. These inscriptions often claim that 'the land was uncultivated', 'nothing was built there before', or the 'the land was deserted' prior to the provision of any new water facility or settlement. The language of the inscriptions often appears formulaic therefore the true state of the land prior to their construction cannot be proven. It is also possible that during military campaigns water management facilities could be destroyed, as they evidently were when the Urartian city of

[68] Garbrecht 1988: 195.
[69] Belck 1904: 192.
[70] Belli 2008.
[71] The Autonomous Republic of Nakhichevan is a constituency of the Republic of Azerbaijan.
[72] Belli 2008: 307.
[73] Issar and Zohar 2007: 198.
[74] Issar and Zohar 2007: 198.

Ulhu was sacked by Sargon II, especially in the areas of north-eastern Anatolia (Diauehi) and Transcaucasia (Qulha, Taruini and Etiuni) where resistance to Urartian expansion had been encountered. Therefore these inscriptions may simply denote the restoration of damaged irrigations system rather than the construction of new ones.

Urartian monarchs may have been active in building such facilities (*i.e.* Rusa Lake, Minua canal), but it is also possible that some facilities were built by local aristocracies or powerful tribal leaders, without any state involvement. If one considers that the Urartian kingdom was composed of many different tribes,[75] then it is reasonable to assume that some of the canals and reservoirs may have been constructed by local authorities independent of the monarch. Separate building by local authorities has been identified by Kemalettin Köroğlu,[76] who re-examined the sites of Yoncatepe (Figure 12) and Patnos/Giriktepe (Değirmendere) and suggested that the citadels were built by local rulers rather than the central state and has named the citadels 'Bey Konağı' 'Lordly Houses'. Following Köroğlu's interpretation of the Bey Konağ, the Harabe and Bakraçlı dams, which were investigated by Belli[77] and located close to the Yoncatepe citadel, may also have been built by a local ruler or rulers.

In addition some reservoirs might also have been constructed through local communal effort, particularly in rural areas, such as the Gelincik dam situated on 140 km south-east of Van close to the border with Iran.[78] The nearest known Urartian period settlement is located approximately 60 km south east of Gelincik, at Yeşilalıç, where a sanctuary in the form of a door-shaped niche and a fortress dating to reign of Išpuini (see III.5.3 for the discussion of co-regency of Išpuini and his son Minua) is located.[79]

When the geographical locations of some of these water facilities and ethnographic observations are taking into consideration, the nature of the structures themselves can also be questioned. For example, Belli observed farmers using the beds of some of these water facilities to grow grass by blocking off the sluice from early spring until July or early August in order to collect water in the Lake Van basin.[80] Such 'water meadows' retain water into the summer months and could therefore be harvested in the dry season to provide grass and fodder for livestock that needed be fed during the long and cold winter months, when animals

[75] Diakonoff 1984.
[76] Köroğlu 2009: 383-394.
[77] Belli 1999b: 11-13.
[78] Belli 1994b: 103.
[79] Sevin and Belli 1977: 381-394.
[80] Belli 1994b: 103.

are commonly kept in stables.[81] An example of one such site is Argıt, which is located at an altitude of 2,350 m. above sea level and has little land suitable for arable usage nearby. Even if the land around it was cultivated, the high elevation would have made it economically unproductive for intensive arable production.

Lastly, when one considers the relatively small size of some of these water installations and their proximity to pastures, it is plausible that some of these structures may have been used for watering large herds in upland areas. These structures may have retained water in the dry summer months so that they could function as watering holes or 'dew ponds' for herds that grazed the uplands at this time of year. The stone foundations of large structures, Belli's so-called 'giant houses' have been identified close to the Arç and Kırmızı Düzlük dams.[82] These are too large to be domestic dwellings but may be better interpreted as stables or open animal pens for seasonal use. Pens or stables such as these may have been used for gathering large numbers of animals together at certain times of the year for the purposes of breeding, shearing, marking or many other reasons.

Table 1. Irrigation Works of Urartian Kings and their Locations

King	**Texts (CTU)**	**Location**
Minua		
	A 5-12 12A-D, A 5-13, A 5-14A-D, A 5-15A-E	Van
	A 5-16	Bekri/Muradiye
	A 5-17 Ro	Erciş
	A 5-18	Van
	A 5-20	Adalak/Malazgirt
	A 5-21	Hotanlı/Malazgirt
	A 5-22 Vo	Malazgirt
	A 5-23 Vo	Akdamar/Van
	A 5-24 Vo	Karahan/Muradiye
	A 5-25 Vo	Patnos
	A 5-67	Bostankaya/Malazgirt
	A 5-58 A-C	Van Kalesi
	A 5-59 A-D	Ain-e Rum/Ushnaviyeh
Argišti I		
	A 8-2 Ro, A 8-3 IV	Armavir
	A 8-3 V	Erciş
	A 8-15	Armavir

[81] Yakar 2000: 186-196.
[82] Belli 1994b: 88-101, Figs. 19, 20, 22.

	A 8-16	Armavir
Sarduri II		
	A 9-9	Erciş-Patnos
	A 9-17	Çavuştepe
Argišti II		
	A 11-1 Ro; A 11-2 Vo	Erciş
	A12-8	Ečmiadzin/Erevan
Rusa II		
	A14-1 Ro	Van

II.1.3. Ethnographic Observations and Contemporary Arable Agriculture

In the traditional villages of eastern Anatolia the sowing of grain (mainly wheat and barley) begins in late autumn - from the middle of October to the middle of November. The sowing of summer crops, such as vegetables and sesame, takes place in the spring. However, late May rainfall can cause delay in crop planting in some regions, for example in parts of Ağrı, Doğubeyazıt and Erzurum. Late planting is necessary partly because of the long and harsh winter and partly due to late May rains which inundate most of the fields in early spring when seed planting would otherwise take place. In the cereal growing season April rains are very important for high yields. For example, in the Elazığ region which sees high rainfall between October and March and very little during the summer months there is an obvious detrimental effect on crop harvesting.[83] Therefore, agricultural activities in these regions rely on perennial springs, streams[84] and irrigation. Dry farming is also practiced in the Elazığ region because of the warmer climate of the early summer months.[85] Malcolm Wagstaff[86] pointed out that in the Avşan basin of Elazığ, which lies 35 km north- east of the Elazığ Plain, the cultivation of wheat by dry-farming methods is a response to annual precipitation and its distribution.

Dry farming is dependent on natural rainfall and a lack of moisture can cause crop failures. Therefore survival of dry farming requires careful management of arable land by retaining moisture in the soil in order to minimize failure or poor yield. In Anatolia one of the techniques used by traditional farmers is the fallow (Turkish: nadas) system in which every two years a specific field is left fallow in order to preserve moisture in the soil. In some specific areas half of the village fields are sown one year and the other half left fallow and

[83] Wagstaff 1975: 202-203.
[84] Wagstaff 1973: 202-203.
[85] Zimansky 1985: 27.
[86] Wagstaff 1973: 202.

used for pasture.[87] Planting the same fields in consecutive years weakens the soil, and therefore, in order to increase crop productivity fallow fields are ploughed more than once to clear the weeds. After harvesting, herds are transferred to fields from uncultivated areas and from highland pasture (Turkish: yayla) areas to graze on the stubble and thus clear the weeds and fertilise the soil. After completion of the harvest, ploughing on the cultivated fields for fallow starts in late autumn. It should be mentioned that a small, but nevertheless interesting, piece of evidence regarding ploughing in the Urartian kingdom comes from the site of Toprakkale. A *bulla* from Toprakkale which is in the Berlin Vorderasiatischen Museum reveals that from the city of Ardu(ni) (Mušašir) a plough ox was received: '*A sealed receipt of a plow ox from the city of Ardu(ni)*' (CB Tk-1). Unfortunately the context of the *bulla* is unknown, and it is hard to say that the ox had actually been employed in ploughing.

The harvest season begins in July and continues until the end of August. Once the harvesting and threshing is completed in late autumn, in eastern Anatolia sowing begins immediately thereafter.[88] Although farmers today use tractors for sowing, it was not until the middle of the 20th century that traditional rural community farmers in most parts of Anatolia and the Near East abandoned the use of light wooden ploughs or steel ploughs driven by oxen and sowing seed by hand.[89]

Nicholas Helburn[90] states that a man and two oxen can plough about a quarter of an acre a day. In the valley of Adilcevaz on the north-west shore of Lake Van, when James Brant and Adam Gifford Glascott visited this region in 1838, they reported the agricultural practices between Erciş and Adilcevaz. Accounts of early travellers such as this give us valuable insight into pre-mechanised agriculture in the region. Brant and Glascott wrote:

'*The soil was sandy, and the crops, which the peasantry were reaping, were remarkably fine and clean, and I observed the grain was sown in drills. I learned that drill-husbandry and a careful system of agriculture was universally practised in this part of the country. A long wooden block, with a sharpened end hollowed on a slope, is drawn by two oxen, and makes a trench about 6 inches deep. A boy follows, and lets the seed fall from his hand into the trough, from whence it runs into the drill; the grain is picked over by women, and the finest heads selected for seed. After the crop is reaped the weeds are cut down and burned. Hoeing is not practised, nor from the appearance of the crops can it be required. The*

[87] Stirling 1965: 48
[88] Yakar 2000: 172.
[89] Helburn 1955: 380.
[90] Helburn 1955: 380.

fields are never irrigated; and although there had not been any rain for some months, and the soil appeared dry sand, yet the bottom of the drill was quite moist, and the people said that in ten days the seed now sown would appear above the ground'.[91]

Brant and Glascott stated that the success of agriculture was down to drill ploughing. Both also took note of the rich water sources of the region and the extensive vineyards, gardens, and orchards, stating that the annual yield of wheat was 20 fold, rye 50 fold, and for barley, 40 fold.[92] They described the way the villagers used the wooden drill-plough, which was drawn by two oxen, and noted that this system of agriculture was widespread in this region of Anatolia.

A similar account was given by Viscount Pollington in June of 1838 when he passed through Hınıs on his way from Erzurum to Diyarbakır:

'*On our way we passed some peasants sowing wheat, which they did in a very primitive manner: the sower walking before the plough cast the grain upon the ground among the high grass and weeds, and then over all came the plough, which was drawn by eight oxen: the grain was small but very white*'.[93]

Pollington observed that there was no preparation of soil before cultivation, this could be because of the long winters and short summers in which there was little time to prepare the soil.

In the traditional rural communities of Anatolia and the Near East, until as late as the middle of the 20th century, the harvesting of grain was commonly done manually using sickles and occasionally scythes. Likewise the harvesting of chick-peas and lentils was done with bare hands by simply cutting or pulling up the produce. The grain harvest was carried to communal threshing floors where the corn was separated from the chaff.[94] The separation of the grain from the stalks was done using a special sledge, drawn by oxen or horses and donkeys.[95] The crops were threshed by this sledge which consisted of a wooden board with sharpened flints set into to its underside and the board was repeatedly dragged over the crops. The sharpened flints cut the kernels from the head of grain and chopped the straw, easing the release of moisture and so allowing for better storage to feed animals during the long winter

[91] Brant and Glascott 1840: 404.
[92] Brant and Glascott 1840: 405-406.
[93] Pollington 1840: 446.
[94] Helburn 1955: 381.
[95] Stirling 1965: 47; Yakar 2000: 171; Helburn 1955: 381.

months. However is should be said that there are no remains of archaeological or iconographic evidence about the use of sledge from the Urartian kingdom.

On the other hand, however, excavations on Urartian sites have recovered similar tools and equipment that were probably used by Urartian farmers. For example, iron pitchforks recovered from Toprakkale[96] Dedeli[97], Karmir-Blur[98], Yoncatepe[99], and at Ayanis[100], and other tools such as ploughs, axes, hoes, and sickles at Toprakkale[101] and Karmir-Blur (Figure 82).[102]

II.1.4. Arable Agricultural Areas

The climate and terrain of the highlands of eastern Anatolia and north-western Iran limited intensive agriculture to areas around rivers, narrow valleys, plains, and terraced hills (see Table 2). Despite the high mountains and the continental climate of eastern Anatolia, Armenia and north-western Iran there are still major agricultural areas[103] in these regions.

The alluvial plains located along the courses of the Murat, Karasu, and Araxes rivers and their tributaries, played an important role in the agricultural activities in Urartian territories. Although many agricultural regions were cut off from each other by the deep and narrow valleys that are often found along river courses, these river valleys, nevertheless, offered the best opportunities for cultivation.[104] In addition to the river valleys there are also important agricultural areas in the lake basins of Van, Sevan and Urmia; though the waters of Lake Van and Urmia are not conducive to agriculture (see II.1.2.1), a number of important rivers empty into the lakes providing vital water for the agricultural areas located around the lake basins.

The Lake Van basin was the centre of the Urartian kingdom and, therefore, it is not surprising to find numerous Urartian inscriptions and archaeological data regarding Urartian rulers' involvement in agricultural activities. Like the other highland regions of eastern Anatolia, north-western Iran and Armenia, Urartian rulers claimed that the lands around the Lake Van basin were previously uncultivated and that it was they who created irrigation facilities (see II.1.2 and Table 1), opening up new fields for the cultivation of crops,

[96] Lehmann-Haupt 1931: 546.
[97] Öğün 1978a: 66-67, Fig.10.
[98] Barnett and Watson 1952: 143.
[99] Belli 1997: 79, Fig. 9.
[100] Personal observation during summer of 2010.
[101] Lehmann-Haupt 1931: 545, 546, 547.
[102] For example Piotrovsky 1950: 40 Fig 20.
[103] Saraçoğlu 1989; Atalay and Mortan 1997: 491.
[104] Zimansky 1985: 17.

vineyards and orchards. There are several agricultural areas where intensive agricultural activities were practised, particularly Van, Gürpınar (Havasor)[105], Erçek, Muradiye and Erciş in the Lake Van basin. Rivers such as the Bendimahi, Deliçay, Karasu, and Hoşap Suyu empty into the Lake Van from the south-east, with the Zilan Deresi, Yekmal Çayı and Deli Çay entering the lake from the north. These rivers also bring with them alluvial deposits and thus create fertile plains around the Lake Van basin.

There is textual and archaeological data pertaining to the Murat[106] and the Karasu River basins that appear to indicate that in places, such as the upper reaches of the Murat River near modern Patnos and Malazgirt, the Urartians successfully engaged in opening up new land for agriculture and in creating water facilities to support cultivated areas. As the state started to lose control of some areas in south-eastern Anatolia and north-western Iran to the Assyrians during the late 8th and early 7th centuries BC, the Urartians strengthened their control over this area. The Murat basin was an important agricultural region, particularly along the course of the river itself where dry farming and irrigation-based agricultural activities are still practiced on the plains of Eleşkirt, Patnos, Malazgirt, Muş, Bingöl, and Elazığ; the Patnos region is stand out as one of the most intensely cultivated areas in the Murat Valley.[107] There are important Urartian period settlements (such as Aznavurtepe[108], Giriktepe, Kancıklı, Keçi and Liç Kale)[109] and inscriptions[110] which suggest that this region attracted the attention of the Urartian kings Minua, Argišti I and Sarduri II. Some of these inscriptions are concerned with the construction of granaries and date to the reigns of Argišti I and Sarduri II.[111]

In the Karasu River basin[112] the plains of Erzurum, Erzincan and Tercan are the most important areas where agricultural activities are currently carried out without irrigation (see

[105] Çavuştepe (*Sarduriḫunili*), dating to the reign of Sarduri II, is a large and well-fortified administrative, military and economic centre in the Hoşap Valley south of the city of Van. Excavations at the site uncovered cellars for the storage of wine and grain, workshops, storerooms, and cisterns for the collection of rain water (Erzen 1977; 1988).
[106] Wilson 1962: 102-103.
[107] Atalay and Mortan 1997: 525.
[108] Urartian ^{URU}*Aludiri.*
[109] Burney 1957: 37-53; Burney and Lawson 1960: 189-194; Öğün 1974: 45; Balkan 1964: 235-243; Boysal 1961: 199-212.
[110] In Patnos and its environs there are some important inscriptions such as A 2-10 / UKN 14-16, A 9-25 / UKN 162, A 5-55C / UKN 87 and UKN II 380, A 3-12, A 5-25 / UKN II 376, A 5-11A, A 5-11B / UKN II 372-373, A 5-37 / UKN II 374, A 5-39 / UKN II 375, A 5-70 / UKN II 384.
[111] A 9-26 / UKN II 423, A 9-25 / UKN 162, A 8-29 / UKN II 402.
[112] While the kingdom of Diauehi was located to the Çoruh valley and the area covering the Karasu River basin by Diakonoff and Kashkai (1981: 25-26), the centre of the kingdom was considered to be located between Aşkale and Tercan by Salvini (2002a: 39, 45 no 46) and Burney and Lang (1971: 136). However, after the 9th century, the kingdom was obliged to pay tribute to Urartu during the reign of Minua (Yazılıtaş A 5-3/UKN 36, Süngütaş/Zivin: A 5-4 / UKN 37, Pasinler: A 5-14B / UKN 69, Delibaba: A 5-14A / UKN 68, Pribat: A 3-6, A

Table 2). Although the summer rainfall makes irrigation unnecessary in Erzurum (annually rainfall fluctuates between 300-400 mm), Erzincan (between 1929 and 1990 is 366 mm)[113], and in the surrounding areas, the severe and long winters very often cause delays to the sowing and harvesting of cereal and thus make it economically unproductive and these areas often go uncultivated.[114] Despite poor economic viability and harsh weather conditions in the Karasu River basin, cereal cultivation is still practised here.[115] Brant and Glascott[116] noted that in the Erzurum Plain *'...towards the upper part, near the mountains, where the town is placed, wheat yields six to eight folds, while in the lower ground, near the river, it renders twelve to fifteen folds*'.

One of the most important agricultural areas in what was once the Urartian territory is the Araxes River basin where the topography[117] is not a limiting factor for cultivation. Along the course of the Araxes River there are important agricultural areas such as Pasinler[118], Iğdır[119], Ararat, Nakhichevan[120], Weracham[121] (Alishar) and Qara Zia Eddin. There are large differences in the basin's elevation and annual precipitation; the summers are dry and winter snowfall is not as heavy as in the Karasu and Murat river basins. Although the region receives rainfall in spring, it is inadequate for cultivation and therefore irrigation is essential. The biggest agricultural areas in the Araxes drainage area are located in the Ararat Valley between Mount Ararat and Aragat,[122] which lie along the course of the River Araxes between the modern borders of Armenia, Turkey and Nakhichevan.

5-40A-B, A 8-33, A 8-34, A 8- 35, A 8-36, A 8-37) and his successor Argišti I ended Diauehi and annexed it to Urartu.

[113] Hayli 2002: 3.

[114] Erinç and Tunçbilek 1952: 189.

[115] Atalay and Mortan 1997: 518-519.

[116] Brant 1836: 200-201.

[117] Zimansky 1985: 22.

[118] The Pasinler and Horasan plains are the first regions to be watered by the Araxes River, in the east of the Erzurum Plain. The soil of Pasinler is very fertile and for the most part, used for the cultivation of wheat, barley and orchards (Saraçoğlu 1989: 359).

[119] The alluvial plain of Iğdır is one of the most arid regions of eastern Anatolia, but it is well watered by the Araxes River and in the areas irrigated by the river, wheat, barley, sugar beet, cotton, apples and various type fruits and vegetables are grown (Atalay and Mortan 1997: 520; Saraçoğlu 1989: 364-365).

[120] On the Nakhichevan Plain the İlandağ inscription of Išpuini (A 3-8) and sites of Oğlan Kale, Karasu, Calhan Kale, Kalacık and Kazançı (Parker *et al*. 2011: 187-205; Bahsaliev 1997: 116-118) are the Urartian period remains. The rock-cut and inscription of Ferhat Evi (Batabat) is also dated to Urartian period by Belli and Sevin (1999: 61-64), but Çevik (2000: 29) expressed his doubts in regard to this and rather, suggested that it might date to the Achaemenid period.

[121] The Weracham Plain is the location of Weracham fortress. Located on the Iranian side of the Araxes River Valley (Kleiss 1974: 83), the site of Weracham is known since the Hermitage Museum received a collection of bronze artefacts in 1859 from a rock-tomb (Piotrovsky 1967: 82-84, Figs. 59, 60-I; 1969: 15, Figs. 76, 103-105, 108) and among this collection there was also a bronze siren attachment (see Chapter II.4) and one of the bronze bells received by the museum inscribed with the name of king Argišti I (B 818/UKN 149c).

[122] Piotrovsky 1969: 71.

The foundation of Erebuni[123] (Arinberd) and Argištiḫinili[124] (Armavir) by Argišti I, and Teišebai[125] (Karmir-Blur) by Rusa III for administrative, economic and military purposes were parts of a major expansion of the kingdom to the broad plain of Ararat and strengthened the Urartian presence in southern Caucasia. The Ararat Plain (Figures 29 and 30) extends over an area of more than 100 km from north-west to south-east; the width of the valley is between 35-45 km.[126] It provided the most extensive tract of arable land in the Urartian kingdom and is watered by the Araxes River and its tributaries such as the Hrazdan, Marmarik, Arpa, Kasakh, and Kura. Irrigation was essential in this part of the Urartian kingdom[127]; Baron von Haxthausen who visited Erevan in the 19th century mentioned the importance of irrigation for the region's farmers.[128] Haxthausen described the irrigation system around Erevan and its environs during the mid-19th century as;

'*this country would be an uninhabitable steppe, but for the network of canals which extends over every part, irrigating the cornfields and gardens, as well as meadows. If all these canals were laid down on a map, it would exhibit an extensive and regular system, complex in structure, but planned with great skill and knowledge*'.[129]

Haxthausen's account illustrates the existence of complex irrigation systems and their importance for cultivation at the beginning of the modern era. Similarly, the Urartian kings Argišti I[130] and Rusa III[131] developed agricultural areas between Ararat and Shirak plains by construction of irrigation facilities.

Despite the well documented textual[132] and archaeological[133] evidence that suggest the presence of the Urartians in the Lake Urmia region, there is an absence of any Urartian

[123] The site is located along the north-eastern route via Abovian Valley, in the Ararat Valley. Argišti I claimed (A 8-3 II lines 36-37 / UKN 127 II, A 8-1 Vo lines 21-22/ UKN 128 A2 lines 21-22) that when he built the city of Erebuni '*the land was a wilderness (and) nothing was built there. Mighty deeds I have accomplished there'* and settled 6600 soldiers from the region of Hittite (Militia) and Šupa from his previous year's military campaign.

[124] Argištiḫinili, located 5 km north of the Araxes River, consists of two citadels, with the eastern one called Armavir and the western 'the Hill of David' (Forbes 1983: 20). The remains found on the Hill of David have been interpreted as the residences of Urartian officials, and those seen at Armavir as large storage areas.

[125] The site of Karmir-Blur is about 10 hectares and consists of a citadel and lower settlement (Piotrovsky 1969: 133). An inscription on a fragment of a bronze door bolt with a ring (B 12-15/ UKN 283) indicates that the citadel was called Teišebai (Piotrovsky 1970: 23).

[126] Badalyan and Avetisyan 2007: 14.

[127] van Loon 1966: 18; Zimansky 1985: 24.

[128] Haxthausen 1854: 194-199.

[129] Haxthausen 1854: 196.

[130] A 8-16 / UKN 137, A 8-3 IV lines 72-73 / UKN 127 IV, A 8-2 Ro / UKN 128 B2 41-42.

[131] A 12-8 line 15 /UKN 281.

[132] The Qalatgah inscription of Išpuini (A 3-10) and Minua (A 5-61**)** in the Ushnu Valley; the bilingual stelea of Kelishin (A 3-11 / UKN 19), the Karagündüz inscription near Erçek Lake close to Van (A 3-9 / UKN 24); and

written records specifically relating to agricultural activities undertaken here by the Urartian kings. In the Lake Urmia basin, modern day cultivation is practiced on the western and southern shores and is concentrated along rivers and seasonal streams in the areas of Khoy, Marand, Shahpur/Salmas, Urmia, Solduz/ Ushnu, Naqadeh and Miandoav.[134] The lowland of Khoy (Figure 26) and the adjacent areas of Julfa and Marand (Figure 27) form one of the driest parts of what was once the Urartian territory. Due to inadequate rainfall in the plain of Khoy, Marand, Shahpur/Salmas (Figure 28)[135], Solduz, Miandow[136] and Urmia[137] agricultural activities are undertaken with help of irrigation.[138] Zimansky[139] noted that the land on the western parts of the Marand is very saline and therefore is not conducive to productive cultivation. However, James Morier[140], who visited Khoy and its environs in 1809, described the region's fertile soil and gardens, and its extremely rich crops. Morier praised Khoy as: '*plain of Khoi* [Khoy] *was the richest tract that we had seen. It was covered with corn, broken only by here and there by the foliage of enclosed gardens. Of these gardens we ventured to enter one, which was renowned all over the country for its beauty and fruitfulness*'.[141]

Minua's inscriptions of Taštepe (A 5-10 / UKN 29) and Ain-e Rum (A 5-5 9 A-D) near Miandoab on the south-eastern corner of the Lake Urmia, clearly demonstrate that the Urartians conquered the western and southern shores of Lake Urmia by the late 9th century BC. Argišti I, Sarduri II, and Argišti II also carried out military expeditions against Manna, Buštu, Buque, Ušulu, Gituhani, Tuišdu in the eastern parts of the Lake Urmia basin and expeditions even went as far as Ardabil (Našteban and Razlıq) close to the Caspian Sea (A 8-3 III, IV, V / UKN 127 III, IV, V; A 9-3 I, V / UKN 155 A, B and A 11-6).

[133] The construction of the Qal'eh Ismail Aqa in the Urmia Plain along the course of the Nazlu Čay, the re-occupation of Hasanlu IIIB (800–600 BC) as a fortified citadel (Figure 17) (Dyson and Muscarella 1989:8), and Agrap Tepe (Figure 18) (Muscarella 1973a) illustrate that the Urartians were firmly in control of the Lake Urmia basin. In addition the number of settlements (27) and fortifications (8) on the plain of Urmia during the Urartian period show that the Urartians were keen to control agricultural areas and the major road of the region (Biscione 2003: 171-177).

[134] Naval Int. Div. 1945: 50-53; Pecorella and Salvini 1982: 2; Zimansky 1985: 20-21.

[135] Haftavan level III of Urartian period is the biggest site in the region (Burney 1970, 1972b).

[136]Zimansky (1985: 20; 1990: 9-10) argues that there is no fortification or settlements of Urartian in this area, despite the existence of Taštepe (A 5-10) inscription of Minua of early 9th century BC.

[137] Biscione 2003: 167-168.

[138] Naval Int. Div. 1945: 49, 51.

[139] Zimansky 1985: 22.

[140] Morier 1816: 291-294.

[141] Morier 1816: 292.

Table 2. The Use of Lands Suitable for Cultivation in Eastern Anatolia

Provinces	**Rainfed Farming %**	**Pasture %**	**Irrigated Farming %**	**Forest & Heaths %**	**Residential Area %**	**Meadow %**	**Vineyard & Orchards %**
Ağrı	39.3	38.3	12.9	-	1.3	8.2	-
Bingöl	23.7	40.7	10.9	12.8	0.3	11.6	-
Bitlis	56.1	23.3	11.4	7.5	0.7	0.8	0.2
Elazığ	61.1	9.8	19.1	5.1	0.4	0.1	4.5
Erzincan	49.7	16.6	26.6	3.4	1.4	1.2	1.2
Erzurum	37.3	38.8	13	2.2	0.4	7.7	0.5
Hakkâri	23.1	15.9	37.5	4.2	0.7	18.7	-
Kars, Iğdır & Ardahan	36.8	42.6	4.8	5.9	1.2	8.4	0.3
Malatya	67.9	5.4	19.2	1.1	0.8	-	5.5
Muş	60.1	25.7	5.7	1.8	0.9	5.8	-
Tunceli	74.9	7.7	7.5	7.2	1.0	1.6	0.04
Van	51.9	28.4	13.3	-	0.7	5.4	0.2

(**Source:** Compiled from Eastern Anatolia Project Master Plan 2000)

Table 3. Distribution of land use in Eastern Anatolia region of Turkey

Provinces	**Land suitable for cultivation (ha)**	**%**	**Land part suitable for cultivation (ha)**	**%**	**Land unsuitable for cultivation (ha)**	**%**	**Non-Agricultural lands (ha)**	**%**	**Total (ha)**
Ağrı	338,516	30.1	159,575	14.1	577,127	50.6	58,640	5.1	1,133,858
Bingöl	71,711	8.9	79,461	9.8	651,339	80.3	8,179	1.0	810,690
Bitlis	125,405	19.7	34,354	5.4	464,228	72.9	12,622	2.0	636,609
Elazığ	173,291	21.6	86.003	10.7	524,772	65.4	17,812	2.2	801,878
Erzincan	138,755	11.7	107,629	9.0	848,303	71.2	95,661	8.0	1,190,348
Erzurum	470,031	18.8	343,626	13.6	1,591,027	63.4	101,207	4.0	2,205,891
Hakkâri	43,617	4.7	14,880	1.6	745,472	79.9	129,328	13.9	933,297
Kars, Iğdır & Ardahan	528,532	28.7	404,319	21.8	842,799	45.8	64,915	3.5	1,840,565
Malatya	257,404	21.0	72,479	5.9	858,494	69.9	40,052	3.3	1,228,429
Muş	295,755	35.8	50,617	6.1	569,210	56.8	10,967	1.3	826,549
Tunceli	44,169	5.9	54,269	7.2	599,577	79.9	51,775	6.9	749,770
Van	350,233	18.5	224,610	11.8	1,230,676	64.9	91,389	4.8	1896,908

(**Source:** Compiled from Eastern Anatolia Project Master Plan 2000: 32)

II.1.5. Arable Crops

There are royal inscriptions that mention the creation of orchards, vineyards and new areas of cultivation (see Table 5). These types of agricultural activities such as vineyards (^{giš}*údu-li-e-i*[142]/ ^{giš}*GEŠTIN*) / grapes (*ḫaluli*)[143], orchards (^{giš}*zare* / ^{giš}*TIR* / *ṣa-ri*), gardens (^{GIŠ}*NU.SAR* / *ṣare*)[144] and fields of grain ($^{giš\ šam}$*ŠE*)) are often referred by Urartian kings and were the mainstay of traditional highland communities in eastern Anatolia, north-western Iran and Armenia until as recently as the 19th century.

Cereal cultivation of barley (*ŠE.PAD*^{MEŠ145} / *ḫipuni*)[146], wheat (^{ŠE}*GIG*[-*BA*/*BI*] *kibtu, aršātu*)[147] and millet is very well suited to the climate and topography of the Urartian territory and is still widely grown in the region. Archaeo-botanical studies provide us with important information relating to the crops that were cultivated by Urartian farmers at sites such as Bastam[148], Karmir-Blur (Figure 31)[149], Ayanis (Figure 32)[150], Yukarı Anzaf[151], Yoncatepe[152], Qaleh Ismail Aqa[153], Hasanlu IVB[154], Patnos/Ağrı[155], and Sos Höyük[156] (see Table 4). Palaeo-botanical evidence of cereals at Ayanis, Bastam, Karmir-Blur, Yoncatepe, Hasanlu and Patnos/Ağrı reveals a large number of carbonised cereal grains from various contexts, including *pithoi*, jugs and burnt buildings.

Analysis of seed evidence shows that barley (*Hordeum vulgare*), free-threshing wheat (*Triticum aestivum / Triticum vulgare vill.*) and emmer wheat (*Triticum dicoccum*) were by far the most dominant species.[157] In many ancient Near Eastern societies barley and wheat were the basis of the diet. Barley is well suited to the long harsh winter conditions and poor soil of eastern Anatolia and can yield viable harvests even in bad years. Likewise the various species of wheat found by archaeo-botanical research suggest that the Urartians cultivated a

[142] Diakonoff 1989: 86 no. 40.
[143] Salvini 2001b: 261.
[144] A 11-7 / UKN 277.
[145] Belli and Salvini 2006: 69.
[146] Salvini 2001d: 284.
[147] Salvini 2001d: 286 no. 23.
[148] Hopf and Willerding 1988: 263-318.
[149] Tumanjan 1944: 73-82; Kasabjan 1957: 107-116; Bedigian and Harlan 1986: 137-154; Barnett and Watson 1952: 145.
[150] Cocharro, *et al.* 2001: 391-396; Solmaz and Dönmez 2013: 1-15.
[151] Belli and Salvini 2006: 58.
[152] Dönmez and Belli 2007: 290-298.
[153] Costantini and Biasini 1984:397-402.
[154] Harris 1989: 18-23.
[155] Dönmez 2003: 89-95.
[156] Longford *et al.* 2009: 125.
[157] Hopf and Willerding 1988: 263-318; Cocharro *et al.* 2001: 391-396; Dönmez 2003: 89-95; Dönmez and Belli 2007: 290-298; Solmaz and Dönmez 2013: 1-15; Barnett and Watson 1952: 145; Harris 1989: 18-19.

number of cereals and it seems that both barley and wheat provided the basic supply of carbohydrates in the Urartian diet. It is interesting to note the predominance of barley and a sample taken from the Yoncatepe kitchen area suggests that it was used for making bread as well as for animal fodder. The possible site of a brewery of Karmir-Blur[158] (Room 15) in which carbonised grains were excavated also suggests that barley was used for brewing beer.

Apart from staple cereals, chickpeas (*Cicer arietinum*), bitter vetch (*Vicia ervilia*), millet (*Setaria italica*), grapes (*Vitis vinifera*), beans (*Cicer arietinum*/*Ervum lens*) and rye (*Secale cereal*) have been found in small amounts at Karmir-Blur (see Table 4).[159] At the site of Yukarı Anzaf, on the north of the temple area, in a room identified as a kitchen, the excavators uncovered large quantities of lentils (*Lens culinaris*) and wild peas (*Cicer anatolicum*).[160]

One of the most interesting finds from the Ayanis temple complex was the great quantity of millet (*panicum miliaceum*) discovered not only in a bronze cauldron, but also in numerous jars. According to Çilingiroğlu, cereals may have been used as ritual offerings to the god Haldi, and might be related to a fertility cult.[161] There was further evidence of broomcorn millet from north-west Iran at the site of Haftavan Tepe in an early burned level VIB (*c*.1950-1550 BC).[162]

Archaeological finds at Karmir-Blur suggest that sesame (*Sesamum indicum*) was an important plant cultivated by Urartian farmers in the Ararat valley. Excavations at this site unearthed great quantities of sesame seeds on the north of the citadel in *pithoi* and a workshop for oil making (Sesame oil = Urartian *ḫal-zi*)[163] consists of large three rooms (Room 1, 2, 3)[164], where the remains of a large tufa vat and sesame oilcakes residue indicate large-scale production.[165] Sesame oil is also attested at Ayanis, where a group of *bullae* mention various quantities of sesame oil (CB Ay-24-27).[166] This evidence from Karmir-Blur suggests that the Urartian farmers cultivated sesame seeds for oil in certain regions such as Ararat.[167] Sesame (Sumerian *še-giš-i;* Akkadian *šamaššammū*) is particularly advantageous

[158] Piotrovsky (1969: 139) states that there was a brewery production workshop at Karmir-Blur, where there were the remains of a stone vat with traces of malted barley uncovered. See also Barnett and Watson 1952: 142.
[159] Some remains of millet, wheat and barley from Karmir-Blur are illustrated in Piotrovsky 1969: Fig. 29.
[160] Belli and Salvini 2006: 56-58.
[161] Çilingiroğlu 2004a: 257-267.
[162] Nesbitt and Summers 1988: 90, 91.
[163] Salvini 2001d: 288-289, CB Ay-24-27.
[164] Room 2 contain cakes of sesame and refuse of sesame oil, Room 7 with six *pithoi* of sesame seed, and in storage Room 25 there were mention of sesame in *pithoi* (Barnett and Watson 1952: 136, 139, 143).
[165] Piotrovsky 1969: 138 Fig. 30.
[166] Salvini 2001d: 288-289.
[167] Bedigian and Harlan 1986: 146-147; Kasabjan 1957.

as a crop in Urartu as it tolerates high temperatures and the stresses of droughts and may be grown in a variety of soil types.[168]

Archaeo-botanical remains from Urartian period sites reflect the crops that are used by modern farmers in eastern Anatolia, with the exception that, in modern times, barley is of secondary importance to wheat. The cultivation of cereals including wheat (Turkish: *buğday*), barley (Turkish: *arpa*) lentils (Turkish: *mercimek*) and chickpeas (Turkish: *nohut*) is widely practised in the broad plains of the highland regions. In addition to these main crops, vegetables such as water melon (Turkish: *karpuz*), tomatoes (Turkish: *domates*), pepper (Turkish: *biber*), and onion (Turkish: *soğan*) are grown throughout the highlands of eastern Anatolia and the Transcaucasia region.

The creation of vineyards and orchards is often mentioned in Urartian cuneiform inscriptions, along with water facilities and the construction of new cities (see Chapter III.2.), most of which date to king Menua's reign. Vines (*GEŠTIN*) can grow in a relatively dry climate and poor soils, and can be grown on the extreme slopes of the deep valleys that run through eastern Anatolia. Some areas were also devoted to orchards, many of which can be found along the courses of the Karasu, Murat and Araxes rivers. In addition to orchards, vines and cereals; vegetables would have also been cultivated in gardens along the canals and river banks by the Urartians. Archaeological excavations support the claims made by Urartian rulers in regard to their involvement in agricultural activities; at major Urartian sites large storage facilities (*pithoi*/large storage jars) which were used to store surplus grain, oil and wine have been found (see II.1.7). At Karmir-Blur, there were also the remains of various fruits (plums, quinces, pomegranates, grapes).[169] At Bastam almonds were found (*Amygdalus communis*) along with apricots (*Prunus armeniaca*) and grapes (*Vitis vinifera*).[170] At Yoncatepe, grape seeds (*Vitis vinifera*)[171] were discovered, and at Karmir-Blur, excavations uncovered 150 rooms of various size and function, among which were wine making workshops.[172] When considering large storage facilities uncovered on Urartian period sites it was very likely that a significant portion of the harvested grapes were directed towards the production of wine, while some portion of the crop may have been eaten as fresh fruit. There are references to grape harvesting in Urartian texts, and sacrifices to the god Haldi. For example, one of inscription of Minua states that '*...when the vineyard matured one must*

[168] Sesame is known to have been cultivated since the third millennium BC in the Near East and is often described as an ancient oil crop and grown as a field crop (Bedigian and Harlan 1986: 138-143).
[169] Piotrovsky 1969: 138-140.
[170] Boessneck and Kokabi 1988: 317.
[171] Dönmez and Belli 2007: 294.
[172] Piotrovsky 1969: 138.

sacrifice 1 ox and 3 sheep to Haldi and one must libate wine to the 'Gate of Haldi' and before the stelae' (*^{m}mi-nu-a-še a-li-e aše ^{GIŠ}ul-di t[e]šú-li-e GU$_4$ 3 UDU ^{D}ḫal-di-e ur-pu-úli-i-ni ḫa-lu-li áš-ḫu-li-ni e-'a ^{D}ḫal-di-na-a K[Á] e-'a pu-lu-si-ni-ka-i*'.[173] A large portion of harvested grapes was also likely to be stored as raisins which was an important component of Hittite viticulture ($^{(GIŠ)}$*GEŠTIN.ḪAD.DU.A*)[174] as is in modern Turkey. Dried and stored fruit could be used for a variety of purposes such as food, drink, military rations or as part of rituals and festivals. In modern Turkey grapes is used to make *pekmez* (grape-molasses) and *pestil* (dried fruit pulp).[175] However, although archaeological and textual evidence suggest the widespread growth of grapes by Urartian farmers, the cultural change brought by Islam and large population movements in early 20th century have reduced the number of vines in the Urartian territory considerably, in particular in eastern Turkey (see Table 5).

Table 4. Plant remains from Urartian sites

Plant Remains	**Bastam**	**Ayanis**	**Karmir-Blur**	**Yukarı Anzaf**	**Korucutepe***	**Sos Höyük****	**Yoncatepe**	**Patnos**	**Qaleh Ismail Aqa**	**Hasanlu*****
Grain										
Hulled barley *Hordeum vulgare*	+	+	+	-	-	+	+	+	+	+
Two-row barley *Hordeum distichum*	-	-	-	-	+	-	-	-	-	+
Six-raw barley *Hordeum vulgare nudum*	-	-	+	-	-	-	-	-	-	-
Rye *Secale cereal*	-	-	+	-	-	-	+	-	-	+
Emmer wheat *Triticum dicoccum /Triticum sp.*	+	-	-	-		+	+	+	+	+
Bread / Macaroni wheat *Triticum aestivum / vulgare / durum*	+	+	+	-	+	+	+	+	+	+
Millet										

[173] A 5-33 / UKN 65 lines 23-28.
[174] Gorny 1996: 158-159.
[175] Greaves 2002: 30.

Foxtail millet *Setaria italic*	-	+	+	-	-	-	-	-	-	-
Millet *Panicum miliaceum/* *Andropogon sorghum*	+	+	+	-	-	-	-	-	-	+
Legumes										
Pea *Pisum sativum*	+	+	-	-	-	-	-	-	-	-
Chickpea *Cicer arietinum/ anatolicum*	+	-	+	+	-	-	+	-	-	+
Grass Pea *Lathyrus sativus*	+	-	-	-	+	-	-	+	-	-
Lentil *Lens culinaris/ esculenta*	+	-	+	+	-	+	+	+	+	+
Bitter vetch *Vicia ervilia*	-	-	+	-	+	-	+	+	-	-
Bean *Vicia faba*	-	-	+	-	-	-	-	-	-	+
Oil Crops										
Sesame *Sesamum indicum*	+	-	+	-	-	-	-	-	-	-
Gold of pleasure *Camelina microcarpa* */sativa* (L.)	-	-	+	-	-	-	+	-	-	-
Vegetable, Fruit and Nuts										
Watermelon *Citrullus lanatus*	-	-	+	-	-	-	-	-	-	-
Cornelian *Cornus mas*	-	-	-	-	-	-	-	-	-	-
Hazelnut *Corylus avellana*	-	-	+	-	-	-	-	-	-	-
Quince *Cydonia oblonga*	-	-	+	-	-	-	-	-	-	-
Apple *Malus sp.*	-	-	+	-	-	-	-	-	-	+
Almond *Prunus amygdalus*	+	-	-	-	-	-	-	-	-	?
Fig *Ficus carica*	-	-	-	-	-	-	-	-	-	+
Apricot *Prunus armeniaca*	+	-	-	-	-	-	-	-	-	?
Plum *Prunus domestica*	-	-	+	-	-	-	-	-	-	-

Peach *Prunus persica*	-	-	+	-	-	-	-	-	-	-
Cherry *Prunus sp*	-	-	+	-	-	-	-	-	-	-
Pear *Pyrus sp./ communis*	-	-	-	-	-	-	-	-	-	+
Pomegranate *Punica granatum*	-	-	+	-	-	-	-	-	-	-
Grape *Vitis vinifera*	+	-	+	-	-	+	+	-	-	+

Note: + = Present; - = absent; ?= not certain
* Korucutepe seed samples dated between 1200 BC to 1400 AD ** Sos Höyük dated to Iron Age 1000-300 BC and *** Hasanlu IVB *c*.800BC

II.1.6. Textual Evidence of Urartian and Assyrian on Arable Agriculture

An intriguing inscription along the course of Minau Canal is located at Kadembastı Mevkii, which states that king Minua established for his wife, (*SAL*si-la*)[176] Tariria, a vineyard named '*Taririahinili*'. '*This vineyard belongs to Minua's wife Tariria, and called Taririahinili*'.[177] No doubt, after the construction of the 'Minua Canal' similar new agricultural implementations were carried out on a large scale, and vast fields were given over to grain, orchards and vineyards, which provided subsistence for the growing population in central Urartian territories (see Tables 1 and 5). Like many other Urartian inscriptions concerning building activities, the Ayanis gate inscription (lines 7-8) states: '*GIŠ*ul-di *GIŠ*za-a-ri šú-ú-ḫi te-re-ú-bi URU šú-ú-ḫi'* (*I* [Rusa] *set up new vineyards and orchards and founded a new town here*).[178] It is likely that the terraces on the slopes of northern side of the ridge at Ayanis were dedicated to vineyards, due to lack of agricultural land in the vicinity of Ayanis.

The Meher Kapısı inscription tells us that Išpuini planted new vineyards and orchards for the 'national' god Haldi (A 3-1 lines 27-31 / UKN 27). It is highly likely that the location of the vineyard planted by Išpuini was in the vicinity of Zımzım Mountain, perhaps on the southern part of Zımzım, where crescent shaped terraces fields are protected from cold weather. According to the Keşiş Göl stele, Rusa II established new vineyards, orchards and fields for cultivation (see II.1.2.3 and III.1.2).[179] Furthermore, on a small inscription from

[176] Diakonoff (1963a: 52) translates '*SAL*si-la'* as daughter rather than wife (Zimansky 1985: 69 no. 136).
[177] A 5A-1 / UKN 111.
[178] Salvini 2001b: 251-252 / A 12-8.
[179] When Brant and Glascott (1840: 391) visited the city of Van in 1838 note that gardens in Van covering an area of 4 miles to 7 or 8 eastwards between city and mountains.

Van dated to the reign of the Urartian king Argišti II, there is mention of a garden (*GIŠNU.SAR*) belonging to an individual named Išpilini, son of Batu, and the fruit garden (*GIŠTIR*) [grove] of a man named Gilurani. '*Argišti, son of Rusa, threw an arrow from this place, before the garden of Gilurani, as far as the garden of Išpilini, son of Batu at 950 lokats'* (distance) [approximately 476 m][180] in the Van region. Brant and Glascott, on their visit to the region in 1838 mentioned that the Minua Canal (Shemiram Su) irrigated the rich gardens of Edremit and that (great**)** quantities of fruit were produced in the Edremit district.[181]

The inscriptions from the Erciş Plain illustrate that king Minua[182], Sarduri II[183] and Argišti II[184] paid great attention to developing agriculture in the areas around the Erciş Plain in the Lake Van basin. The inscriptions of Argišti II of Çelebibağı and Hagi mention the opening up of new fields for cultivation and the creation of new vineyards and orchards.[185] The Karataş[186] inscriptions of Sarduri II mention the plantation of a new vineyard which was called the *'vineyard of Sarduri*' (*mDsar-du-ri-ni-i GIŠú-du-li-e-i*). Similarly, the Köşk[187] inscription of Minua on the Muradiye Plain[188], tells us that king Minua established a vineyard called the '*vineyard of Minua*' (*mmi-i-nu-ú-a-i GIŠul-di-e*).[189] On the Erciş Plain the activities of Urartian kings were spread over a long period of time, to the reigns of Minua, Sarduri II and Argišti II, indicating that the kings continuously tried to develop central parts of the kingdom.[190] By contrast, in the Muradiye Plain, we have only inscriptions of the Urartian kings Išpuini and Minua.[191] Inscriptions from the Muradiye Plain indicate that it was part of the Urartian kingdom from an earlier period and many of the construction projects were undertaken during the reign of Išpuini. Projects in the Muradiye Plain included the building

[180] A 11-7 / UKN 277.
[181] Brant and Glascott 1840: 389.
[182] A 5-17 Ro / UKN 58.
[183] A 9-10, A 9-11 / UKN 167, 168.
[184] A 11-1 / UKN 275, A 11-2 / UKN 276.
[185] A 11-1 / UKN 275, A 11-2 / UKN 276
[186] A 9-11 / UKN 167; Diakonoff 1989: 86 no. 41.
[187] A 5-14B / UKN 69.
[188] The Muradiye Plain is located to the north-east of the city of Van, and is watered by the Bendimahi River (Saraçoğlu 1989: 460-461). The well-known fortresses of Körzüt (Arapzengi) (Burney 1957: 47-48; Tarhan and Sevin 1976-77: 276-286) and Muradiye (Burney 1957:48; Özfırat 2007: 117-118) are located in Muradiye Plain.
[189] A 5-33.
[190] The great numbers of Urartian period settlements in the Erciş Plain illustrate the importance of this region for the Urartians such as Evditepe (Belli and Konyar 2003: 35-57), Geletepe Höyüğü, Tepe Şurki Höyüğü, Diov, Gresor, Kilise Mevkii, Şekerbulak, Meydan, Kengerkor, İt Kalesi, Aşağı Karaçay, Deredam, Alacahan, Evditepe, Ganiyi Neso (Özfırat and Marro 2004: 302-307), Keçikıran and Deliçay (Burney 1957: 49).
[191] Karahan (*Minuaḫinili*): A 5-28, A 2-9A, A 5-24, A 5-75, A 5-30, A 5-76, A 5-29, A 2-9B, A 5-19 / UKN 124, A 5-74 / UKN 107, A 5-80 / UKN 95, A 5-95 / UKN 120; Köşk / Güzak: A 5-2B / UKN 34, A 5-2C / UKN 38-306a, A 5-2D / UKN 33, A 5-33 / UKN 65, A 5-35 / UKN 67, A 5-36 / UKN 66; Bekri-Muradiye: A 5-2E / UKN 35, A 5-16 / UKN 57, A 5-30 / UKN 99.

of the city of Haldinili as well as several fortresses[192], vineyards[193], orchards[194], water canals[195] and new fields cleared for cultivation.[196] Perhaps one of the main impetuses behind this spate of building activity was the growing population which needed new agricultural lands in areas close to the centre of the state. Furthermore, the rich alluvial soil of the Erciş Plain and its abundant water sources may have encouraged the Urartian rulers to improve the land around Erciş for cultivation.

In the Ararat Valley, the inscriptions of Sardarabat (A 8-16 / UKN 137) of Argišti I and Zvartnots (A 12-8 / UKN 281) of Rusa III, mention that both kings planted new vineyards, orchards and cultivated new fields. However, the most interesting evidence for Urartian agricultural activities, and in particular for vineyards and orchards, comes from north-western Iran in the Lake Urmia basin. The Assyrian king Sargon II's eighth[197] campaign against Urartu in north-western Iran provides a good description of the Urartian rulers' agricultural activities in the Urmia Lake basin.[198] Sargon II claimed that in the provinces of Zaranda (ARAB II 158)[199], Sangibatu (ARAB II 159, 160, 161, 162, 163, and 164)[200] Armarili (ARAB II 165)[201], Ajadi (ARAB II 166)[202] and Uajais (ARAB II 167)[203] he destroyed many cities, opened up granaries to feed his army and cut down orchards and forests. As expressed in the account of Ajadi: '*Their heaped up granaries I opened up and let my army devour unmeasured quantities of barley. Their orchards I cut down, their forest I felled; all their tree trunks I gathered together and set them on fire*' (ARAB II 166).

One of the most important cities in Sangibatu province described by Sargon in great detail is Ulhu.[204] Sargon described the agricultural activities undertaken by Urartian rulers,

[192] A 2-9B, A 2-9A; A 2-9B; A 5-30 / UKN 99.
[193] A 5-33 / UKN 65, A 5-30 Ro UKN 99; A 2-9A, A 2-9B.
[194] A 2-9A, A 2-9B, A 5-30 / UKN 99.
[195] A 5-16 / UKN 57.
[196] A 5-30 / UKN 99, A 2-9B.
[197] Zimansky 1985: 40-47; 1990: 1-21; Levine 1977a: 135-151; Pecorella and Salvini 1982: 1-35; Muscarella 1986: 465-475.
[198] For a detailed discussion and literature review of campaign see Zimansky 1990: 1-21.
[199] The Urartian province of Zaranda is considered to have been in the plain of Marand by Zimansky (1990: 15).
[200] Zimansky (1990: 15-16) argued that the province of Sangibatu should be identified with the plain of Khoy as opposed to Levine (1977a: 145, Fig. 1) who locates it in the Qadar River Valley.
[201] Levine (1977a: 145, Fig. 1) considered the Ushnu/Solduz Plain as a possible location of Amarili, but Zimansky (1990: 16) proposed a northerly location and considered the Shahpur (Salmas) Plain -a location in the north-west shore of the Lake Urmia.
[202] Although Levine (1977a: 145, Fig. 1) located it on the Ushnu/Solduz Plain, Zimansky (1990: 16) considered it to be in Urmia Plain.
[203] See II.1.2.3 for possible location of Uajais.
[204] Reade (1978:140) and van Loon (1966: 18) argue that Ulhu should be located in the Marand Plain, whilst Laessøe (1951: 21, no 2), Wright (1943: 185 no. 57) and Burney (1972b: 140) suggest a location in the Marand Plain close to Ulagh. Muscarella identifies the site of Qalatgah in the north-western Iran with the city of Ulhu

particularly those of Rusa I in the city of Ulhu, in which he gives a valuable account of the Urartian countryside. This textual evidence helps us to reconstruct the historical geography of the region along with the agricultural activities of the Urartian rulers. Sargon also described how Rusa constructed a number of canals in order to bring water to orchards, vineyards and to the uncultivated fields of Ulhu:

'*He made numberless channels lead off from its bed ... ... and irrigated the orchard. Its waste land, which from days of old ... and made fruit grapes as abundant as the rain. Plane trees, exceedingly high (?), of the riches of his palace... ... like forest, he made them cast their shadows over its plain, and in his uncultivated fields ... ... like god, he made its people raise their glad songs. 300 homers of seed lad, planted(?) in grain, he in (by) ... the crop gave increased return of grain at the gathering. The ground of his uncultivated areas he made like a meadow, flooding it abundantly in springtime, (and) grass and pasture did not failed (cease), winter and summer, into stamping grounds (corals) for horses and herds he turned it. The camels in all of his submerged country he trained(?) and they pumped the water into ditches*' (ARAB II 160).

Sargon II's account reveals that the province of Sangibatu was one of the most advanced areas of agriculture, horticulture and viticulture in the Urartian kingdom. His statements clearly demonstrate that under the Urartian king Rusa I, the province of Sangibatu, and in particular, the land around Ulhu, was transformed from a desert into one of the richest agricultural areas of the 8th century BC. As in the case of the other Urartian provinces in the Lake Urmia basin, such as Zaranda, Armarili, Ajadi and Uajais, Sargon also claimed to have opened up granaries and wine cellars in Ulhu.[205]

Sargon II also claims to have destroyed canals around Ulhu and entered its gardens, as in the following passage *'... into his pleasant gardens, which adorned his city (and) which were overflowing with fruit and wine, like the immeasurable*' (ARAB II 161). He praised the gardens with their overflowing fruits and wine and how they adorned the city of Ulhu. Sargon also said that the vast fields around Ulhu were spreading like lapis lazuli: '*His pleasant fields, which were spread out like a platter painted lapis lazuli*' (ARAB II 161). Furthermore, he mentioned his destruction of cultivated fields and gardens: '*Their abundant crops, which (in)*

(1986: 469). However, Zimansky (1990: 19) challenged Muscarella and indentified the site of Qotur [Khoy Plain] as Ulhu.

[205] '*It filled-up granaries I opened and let my army devour its abundant grain, in measureless quantities. Its guarded wine cellars I entered, and the wide spreading hosts of Assur drew the good wine from (the skin) bottles like river water*' (ARAB II 161).

garden and marsh(?) were immeasurable, I tore up by the root and did not leave an ear (by which) to remember the destruction' (ARAB II 161).

Two centuries after the disappearing of the Urartian kingdom the Greek general and historian Xenophon marched through eastern Anatolia in the autumn of 401/400 BC with his "Ten Thousand" and in his *Anabasis*, he mentioned the highlands communities, which he considered self-sufficient, as well as detailing the surrounding countryside.[206] He noted that a number of Greek army divisions had taken quarters in villages clustered close to one another, in particular a village where the people lived in underground houses[207] which he discovered on his way to Trapezus[208]; '*The houses here were underground, with a mouth like that of a well, but spacious below; and while entrances were tunnelled down for the beasts of burden, the human inhabitants descended by a ladder*'.[209] Furthermore he informs us that the inhabitants of this region stored '*wheat, barley and beans, and barley wine in large bowls*'.[210] Xenophon pointed out that the villagers gladly provided his men with plenty of food[211] and praised the wine given to his men: '*Floating on the top of this drink were the barely-grains and in it were straws, some larger and others smaller, without joints; and when one was thirsty; he had to take these straws into his mouth and suck. It was an extremely strong drink unless one diluted it with water, and extremely good one was used to it*'.[212]

Table 5. Urartian Kings and their Arable Agricultural projects

King	**Texts (**CTU)	**Project Type**	**Location**
Išpuini			
	A 2-5	Vineyard / Orchard	Zivistan/Edremit
	A 2-9A e B, A 2-9B	Vineyard / Orchard	Karahan/Muradiye
	A 3-1	Vineyard / Orchard	Meher Kapısı/Van
Minua			
	A 5A-1	Vineyard	Van
	A 5-11A e B	Vineyard / Field cultivation	Aznavurtepe/Patnos

[206] There is no mention of Urartu in Xenophon's *Anabasis*. Zimansky (1995: 255-258) argued that (1) Urartian fortresses were on higher ground and so are not easily detected in the landscape; (2) after the fall of Urartu and by the time of Xenophon there was almost two centuries and the political and administrative framework created by the Urartian kingdom might not have survived long after its disappearance; (3) and finally the cultural elements that we consider clearly Urartians were related to government.
[207] Burney and Lang (1971: 185) mention similar underground houses in Armenia and Georgia.
[208] Claudia Sagona (2004: 314) suggested that this village was likely to be in the western parts of the Erzincan Plain and reconstructed the possible route taken by Xenophon and his army, see the map in Sagona 2004: 302.
[209] Xenophon *Anabasis* IV.5: 25-26.
[210] Xenophon *Anabasis* IV.5: 25-26.
[211] Xenophon *Anabasis* IV.5: 30-33.
[212] Xenophon *Anabasis* IV.5: 26-27.

	A 5-28, A 5-29 Ro, A 5-30 Ro	Vineyard / Orchard	Karahan/Muradiye
	A 5-33	Vineyard / Orchard	Güzak/Köşk
Argišti I			
	A 8-16	Vineyard / Orchard	Sardarabad/Armavir
Sarduri II			
	A 9-11	Vineyard	Karataş/Erciş
	A 9-12	Vineyard	Armavir
	A 9-16	Vineyard / Orchard / Field cultivation	Armavir
	A 9-17	Vineyard / Field cultivation	Çavuştepe
Argišti II			
	A 11-1 Ro	Vineyard / Orchard / Field cultivation	Çelebibağı/Erciş
Rusa II			
	A 14-1 Ro	Vineyard / Orchard / Field cultivation	Gövelek-Keşiş Göl/Van
Rusa III			
	A 12-8	Vineyard / Orchard / Field cultivation	Ečmiadzin/Erevan
	12-9	Vineyard / Orchard	Ayanis

II.1.7. Storage Facilities

In major Urartian citadels, storage facilities were constructed along with palaces, temples, workshops and other administrative and residential buildings. Textual evidence from Çavuştepe, Armavir and Arinberd suggest that the construction of such facilities occurred mostly during the reign of Argišti I and Sarduri II in the 8th century BC. Although it is known that Yukarı Anzaf was constructed by Minua, it is not known whether the storage rooms uncovered here were built by Minua himself or by one of his successors. It is, however, definitively known that the sites of Karmir-Blur, Ayanis, Kef Kalesi and Bastam were constructed by Rusa III, so most of the remaining archaeological evidence from these sites relating to storage facilities can be dated to the 7th century BC. The storage facilities on the sites that were constructed by Rusa III were much bigger in size and capacity than those of Minua, covering a much greater area within the citadels. Virtually every empty space on sites of the 7th century BC was dedicated to storage facilities.

It is likely that during the reign of Minua, more land was brought under cultivation which brought a steady increase in harvested goods. In addition, the annexation of new territories, improvements in agricultural tools, new water facilities and interaction with others Near Eastern agricultural societies aided Urartian production. There was also an increase in the number of settlements in central Urartu and other areas of the kingdom, all indicating an increase of population. All of these factors combined with the long harsh winters, the continuous Assyrian threat and the general needs of the royal palace forced Urartian rulers to build increasingly large storage facilities.

Large storage facilities indicate that they were serving not only the kings and local rulers and their dependents, but the entirety of the citadels. Archaeological and textual evidence suggests that in the centre of the kingdom and other parts of Urartu, local administrators were responsible for the storage facilities. It is likely that some of the agricultural produce that was preserved in the facilities came from state or royal fields cultivated under the supervision of the palace. Further revenues might have been generated through the collection of taxes from grain fields that were either owned by private or local rulers as well as through portions of the harvest from those renting state owned fields to individuals or tribes. The *bullae* found in the Ayanis western storage area indicate that agricultural goods and other materials were received from other settlements located in various parts of Urartian territory. These *bullae* show that commodities and goods sent to fortress were measured and recorded. The existences of *bullae* and measurements in units of *pithoi* (large storage vessels) demonstrate that the central administration had control over its agricultural resources.

II.1.7. 1. *É ’ari (*Granaries) and Measurement Units of *Kapi* and BANEŠ

Urartian *É ’ari* were built to store cereals and *kapi* were used as a measurement unit in cuneiform inscriptions. *Kapi* also appear in Hazine Kapısı inscription of Sarduri II, where it is associated with measurements of barley, as of ‘122,133 *kapi*’ (A 9-3 VII line 10 / UKN 155 G).[213] Inscriptions concerning the building of granaries typically inform us of the name of the sovereign king, the construction of the *’ari* as well as its content in *kapi* or on occasion measured in BANEŠ. On two occasions the capacities of *’ari* are given in BANEŠ instead of *kapi*. In one of the Arinberd inscriptions of Sarduri II (A 9-20 lines 9-12 / UKN II 419) three *’ari* are mentioned and their capacities are given as 12,600, 11,500 and 24,100 BANEŠ,

[213] Melikishvili in UKN 155 G translate as ‘1,022,133 *kapi*’.

respectively. By contrast, in one inscription of Armavir (A 9-19 lines 9 and 12), dated to reign of Sarduri II, there is mention of two *'ari* whose capacities are both given in *kapi* and BANEŠ as 11,884 and 8,200, respectively.

The building inscriptions of *'ari* confined to the reign of Minua, Argišti I, Sarduri II, and Rusa II and mostly come from major sites such as Arinberd, Armavir, Aznavurtepe, Çavuştepe and Van Kalesi (see Table 6). The capacities of *'ari* storage-rooms vary from the largest capacity of 32,057 *kapi* to the smallest at only 1,432 *kapi*. It is interesting to note that there is only one inscription (A 5-66) which mentions the construction of a *'ari* by Minua with a capacity of 23,100 *kapi* located north-west of Van Kalesi. With the exception of the single *kapi* constructed under Minua, most inscriptions referring to *'ari* date to the reign of Argišti I and Sarduri II. The largest *'ari* is mentioned in one of the Aznavurtepe inscription (Figure 61) and states that Argišti I built a *'ari* with a capacity of 32,057 (A 8-29 / UKN II 402). By contrast, *'ari* inscriptions dating to reign of Rusa II in Armavir (A 14-5 / UKN 288) and Arinberd (A 14-6 / UKN II 458) mention the smallest at 1,432 and 6,848 *kapi*, respectively.

There are various suggestions about the modern equivalent volumes of *kapi* and *BANEŠ*. For example, Zimansky[214] followed Postgate's assumptions of the Assyrian *sati* (*GIŠBÁN*) equating to 18.40 litres and 1 BANEŠ being the equivalent of 3 *sati* totalling 55.2 litres. Margaret Payne[215] treated BANEŠ as a separate measure altogether and suggested the possibility of it either being twice or four times that of *kapi*, approximately 29.6 or 58.4 litres. Salvini[216] dismissed Payne's arguments and pointed out the equation of *kapi* to BANEŠ as an inherent problem, in other words being equally divisible or proportional. Likewise Zimansky[217] also considered the validity of BANEŠ being equal to *kapi*. However, Salvini pointed out that Urartian measures of volume were dependent on the Mesopotamian system, therefore the value of a *SÍLA* being 1 litre, suggests that BANEŠ and *kapi* both correspond to 30 litres.[218]

In addition, Salvini interpreted the Urartian term *muri* as a 'storehouse or silo' that appears in Sarduri II's inscription of Hazine Kapısı of A 9-3 II lines 27-31.[219] Sarduri II

[214] Zimansky 1985: 120 no. 157.
[215] Payne 2005: 93.
[216] Salvini 2010: 367-369.
[217] Zimansky 1985: 120 no. 159.
[218] Salvini 2010: 368.
[219] '*É murili ali LÚAD-še LÚAD.AD-še [za]... 250 É mu-ri-e ḫaúbi ta-áš-mu-ú-bi*' '*the silo*(?)*, which father and grandfather had built ... I conquered 250 silos*(?)' Salvini 1998b: 126.

claimed he conquered the land of Eriaḫi[220] with its capital city's storages rooms of 250, though Melikishvili read it as of 150. The word *mu-ri* is also featured in A 12-2 II line 11 (UKN II 448 lines 21-22) and is accompanied by the determinative *É*. However, the *mu-ri* might refer to large vessels/*pithoi* rather than the actual storage facilities. It is highly unlikely that such storage facilities would exist on the plain of Shirak (Leninakan/Giumri), which is located north-west of Mount Aragats. The largest site on the Shirak Plain is Horom (Figure 4) which dates to both the pre-Urartian and Urartian periods.[221] The site covers an area of between 45-50 ha and the Urartian period occupation was concentrated in the northern part of the citadel.[222] Excavations at the site revealed no evidence of storage facilities or architectural remains. Urartian written sources from the Shirak Plain and its environs date specifically to the reign of king Argišti I and are primarily concerned with military expeditions.[223] As a result there is no mention of building activities such as the construction of fortresses or irrigation facilities in the region like those seen in the Ararat Plain or Van Lake basin.

The Assyrian king Sargon II, stated that he captured granaries in numerous Urartian cities, such as Armarili[224], Aiadi[225], Ushkaia[226] and Ulhu[227] located in the Lake Urmia basin, during his eighth military campaign. After destroying the city of Ulhu and its surrounding areas, Sargon II claimed that his army loaded barley and wheat from granaries in the city onto horses, mules, camels and asses, which were then carried to his encampment, and from there, to Assyria.[228]

There is archaeological evidence from sites such as Çavuştepe, Karmir-Blur and Ayanis for the existence of granaries. For example, at Çavuştepe three rooms were suggested as granaries by Payne and three *in-situ* foundation inscriptions[229] were associated with these rooms.[230] The first room at Çavuştepe was Uçkale Room 2 (11 m x 8.8 m = 98.8 m^2) and the value of grain is given as 13200 *kapi*; the second room was located in the north corridor as Room 1 (7.5 m x 4.5 m = 33.75 m^2) with a capacity of 5000 *kapi*; and the last room was also

[220] Modern Gumri (Leninakan) in Armenia (Diakonoff and Kashkai 1981: 30-31).
[221] Badaljan *et al*. 1992: 31-48; Smith 1995: 146.
[222] Smith (1995: 146) pointed out that although the walls of fortress were not built upon bedrock in typical Urartian type, the cyclopean and buttressed fortification system is typical Urartian.
[223] Sarıkamış (A 8-6 / UKN 130), Guliçan (A 8-9 / UKN 132) Kanlıca/Marmashen (A 8-10 / UKN 133) and Hanak -Kars (A 8-7).
[224] ARAB II 165.
[225] ARAB II 166.
[226] ARAB II 158.
[227] ARAB II 164.
[228] ARAB II 164.
[229] Payne (2005: 86, no. 4) cites Prof Dr Veli Sevin, who worked on the Çavuştepe excavations.
[230] Payne 2005: 86-89.

located in the north corridor as Room 4 (8.5 m x 4.5 m = 38.25 m^2) with the capacity of the room equating to 5800 *kapi*[231] of grain.[232]

At Karmir-Blur a series of rooms west of Room 34 and south of Room 25 were also considered to be granaries. In the western parts of the Karmir-Blur citadel, there were five small rooms along both sides of a corridor which were identified as grain storage areas.[233] On the floor of these rooms there were the remains of wheat and barley preserved as a continuous carbonized layer of 25 to 45 cm thick.[234] A large clay *bullae* bearing the name of Rusa III and sealing the door of these structures was uncovered near the south-east corner of the doorway of the fifth room.[235] Thomas B. Forbes has pointed out that these rooms were shaft-like structures and the entrances were high in the walls and after the grain was poured through the entry of these granaries, the entrance was sealed with a *bullae*.[236] The capacity of these facilities was estimated to be approximately 750 tons of grain.[237]

Further archaeological evidence for the existence of granaries comes from the site of Ayanis. At Ayanis in Area XII, south-west of the citadel gate, from the floor of a partially excavated room (north-south direction 9.60 m, east-west direction 5.50 m) the excavators recovered a level of carbonised grain remains some 10 cm thick (Figure 32).[238] This room was also considered to be a granary.[239] However, apart from grain storage, it is also likely that grain was stored in large vessels, as in the case of Karmir-Blur. Although most of the *pithoi* uncovered in storage rooms from Urartian sites are empty, at Karmir-Blur Room 25, some of the *pithoi* still contained wheat, barley, millet and flour remains. For example *pithoi* no 48, 72 and 73 contained wheat, no 42 barley, no 49 millet and no 45 flour; in Room 28 *pithoi* no 26 and 59 wheat, 63 barley, no 56 sesame, and 15 contained beans.[240]

[231] Payne 2005: 88, T.B.22 (A 9-31), T.B. 17 (A 9-28), T.B. 19 (A 9-27) respectively.
[232] Based on Payne measurements of the granaries at of Çavuştepe, Salvini gives the capacity of each room as follow; Granary 1, 13,200 *kapi* x 30 = 396 m^3: 98.8 = 4 and suggests that this room must have been filled up 4 metres; Granary 2, 5000 *kapi* x 30 = 150 m^3: 33.75 = 4.44 m was filled up 4.4 m; and Granary 3, 5800 *kapi* x 30 = 174 m^3: 38.25 = 4.54 m.
[233] Piotrovsky 1967: 13; 1969: 139.
[234] Harutjunjan 1964: 82-83, Fig. 4.
[235] Harutjunjan 1964: 83, Fig. 5.
[236] Forbes 1983: 67.
[237] Piotrovsky 1967: 13; Harutjunjan 1964: 82.
[238] Personal observations in July 2010.
[239] Personal commutation with Prof Dr Altan Çilingiroğlu in July of 2010.
[240] Barnet 1959: 4 and 8.

II.1.7. 2. Storage Facilities with *pithoi* and the measurement units of A*qarqi*, *Terusi* and *LIŠ*

The storage facilities with *pithoi* (Ayanis, Kef Kalesi, Karmir-Blur, Bastam, Toprakkale, Çavuştepe, Arinberd, Armavir, Altıntepe, Kayalıdere, Yukarı Anzaf and Yoncatepe) show variations in their dimensions and capacities due to the topography and overall layout of sites. In citadels like Ayanis, Arinberd and Karmir-Blur the storage facilities cover large areas that are, in fact, larger than the administrative, temple and residential areas. Some sites usually contain two storage rooms with *pithoi* such as Altıntepe, Yukarı Anzaf, Çavuştepe, and Kef Kalesi. These storage rooms contained large vessels that were buried up to their bellies and were accompanied with small vessels. *Pithoi* usually inscribed on their shoulder or pottery marks of various sizes and shapes, and identical circles. The inscriptions and pottery marks were made before the vessels were baked. *Pithoi* varied in size from one site to another, but within the same storage room *pithoi* were of a similar size, with the exception of the Bastam storage room. At this storage room, the *pithoi* located in the front rows were smaller than those closer to the walls of pillar halls and middle rows.[241] *Pithoi* were also accompanied by *bullae*, as in the case of the Ayanis western storage rooms. Excavations here show that these large vessels had cloths tied over their mouths, with the string sealed with a *bullae*.[242]

The inscriptions on the shoulders of *pithoi* give three measurement units, *aqarqi*, *terusi* and *liš,* as measurement of wine, oil and other liquids. After *aqarqi* and *terusi* (both written in phonetically [*aqarqi*, *terusi*] and acrophonically as *a*. or *tí*.), the third and smallest unit was *liš* (Akkadian *itqūru*) which only appears on *pithoi* and *bullae* at Ayanis.[243] The relationship between these three units is suggested to be as follows; 1 *aqarqi* = 10 *terusi* and 1 *terusi* = 20 LIŠ.[244] However Çilingiroğlu pointed out that on Urartian *pithoi* the largest measure given in LIŠ is 11 and therefore suggests that 1 *terusi* is equal to 12 LIŠ.[245]

Since the discovery of storage facilities and *pithoi* with inscribed measurement units there has been considerable debate[246] over the modern equivalent volumes of *aqarqi* and

[241] Kleiss 1979: 78, Fig. 87.
[242] Çilingiroğlu 2001: 69, Fig. 2.
[243] For example on Ayanis *pithoi* CP Ay-3, CP Ay-4, CP Ay-5, CP Ay-8, CP Ay-11 etc. the third unit is given in LIŠ (Salvini 2001d: 308-310)
[244] Mileto and Salvini 2010: 39; 2010: 366.
[245] Çilingiroğlu 2008: 191.
[246] Klein 1974: 77-94; Çilingiroğlu 2008: 187-196; Dinçol 1974: 105-113; Lehmann-Haupt 1931: 474-475; Brashinsky 1978: 46-48; Salvini 2010: 361-371; Mileto and Salvini 2010: 21-42; Reindel and Salvini 2001: 121-141; Payne 2005: 60-82; Sağlamtimur 2005: 139-143.

terusi to the litre.[247] For example, Ingrid Reindell and Salvini calculation give the following results; 1 *aqarqi* = 237 litres, 1 *terusi* 23.7 litres and 1 LIŠ = 1,185 litres.[248] However, more recently Salvini altered his view and suggested the following calculation; 1 *aqarqi* 275.3 litres, 1 *terusi* = 27.53 litres, 1 LIŠ = 1,376 litres.[249] Payne used *pithoi* from Kayalıdere, Kef Kalesi and has suggested that the value of an *aqarqi* varied between 257.5 to 253.2 litres and 1 *terusi* 28.6 to 28.1 litres.[250] Haluk Sağlamtimur[251] based on the Ayanis *pithoi* has suggested the value of 1 *aqarqi* = 290 litres, 1 *terusi* = 29 litres, and 1 LIŠ = 1.45 litres. Çilingiroğlu[252] also analysed two *pithoi* from Ayanis store room IX (*pithoi* 6: 1 *aqarqi* 3 *terusi* 10.5 LIŠ; *pithoi* 7: 2 *aqarqi* 3 *terusi* 10 LIŠ). His analysis gave inconsistent results and argues that the inscriptions on *pithoi* do not give the capacity of each *pithos* but rather the quantity of liquid stored inside. Nevertheless he suggested that 1 *aqarqi* should correspond to 250 litres.

A similar view about the contents of the *pithoi* was also expressed by Burney. According to one of the *pithoi* (E 8) from the site of Kayalıdere, where two different measurement units are given (the first is giving as '7 jars and 6 goat-skins' the second '50 jars') Burney argued that the *pithoi* there may have been used for years and the commodity stored in these large vessels might not have always remained the same.[253] At Ayanis there were also three *pithoi* with two different inscriptions; CP Ay-11 (4 *aqarqi* 7 *terusi* 10 LIŠ and 6 *aqarqi* x *terusi*), CP Ay-12 (3 *aqarqi* 5 *terusi* 7 (?) and 3 *aqarqi* 3 *terusi*), CP Ay-15 (5? *aqarqi* 2 *terusi* 8 LIŠ and 4 *aqarqi* 8 *terusi*). Salvini pointed out that on each *pithos* the inscribed volumes are different and therefore suggested that the first quantity inscribed must be the one given after installation and the second unit was probably of a later date which indicates a later filling of the vessels.[254] The Kayalıdere and Ayanis *pithoi* with two different measurement units suggest that when the commodity stored inside these large vessels changed the units of weight indicating capacity may have subsequently been altered.[255] Burney also suggested that the capacities indicated on the shoulders of each *pithos* are unlikely to record its actual contents, but that it may 'represent the weight of a commodity

[247] Lehmann-Haupt's (1931: 474-475) calculations on the basis of the *pithoi* at Toprakkale suggest that the volumetric unit of *aqarqi* is between 120 to 150 litres and the *terusi* to be 1:10 of an *aqarqi*, Piotrovsky (1952: 74) calculations based on *pithoi* of Karmir-Blur is 240-250 litres, Klein (1974: 86) suggests 100 litres, Brashinsky (1978: 47-48) based on the *pithoi* of Karmir-Blur gives 208 litres and Kroll (1979b: 227) according to the Bastam *pithoi* gives a value of 160 litres.
[248] Reindell and Salvini 2001: 138.
[249] Salvini 2010: 367.
[250] Payne 2005: 81-82.
[251] Sağlamtimur 2005: 141.
[252] Çilingiroğlu 2008: 191-193.
[253] Burney 1966: 90.
[254] Salvini 2001d: 280.
[255] Burney 1966: 90; Salvini 2001d: 280.

[that] could be stored in the *pithos*'.[256] However, whether the given measures directly relate to the size of the *pithoi* or if it refers to one particular filling we do not know for certain, since some of these storage facilities might have been used over a long period of time. Nevertheless, when considering the archaeological evidence for the elaborate construction of *pithos* storage rooms from almost all excavated sites it seems likely that these facilities were used to their full capacity.

Although there is abundant archaeological evidence from almost all excavated Urartian sites, there is no mention of storage rooms with *pithoi* in Urartian inscriptions. Sargon II does mention in his expedition that when he entered the city of Ulhu's protected wine cellar his warriors '*drew good wine from bottles (the skin) like river water*'.[257] The described cellar may indicate that storage facilities were guarded and were characteristic features of Urartian citadels.

Two storage rooms at Karmir-Blur Room number 25 (31 m long and 10.30 m wide) and Room number 28 (27 m long and 10.30 m wide) contained many interesting *pithoi* as well as bronze and iron artefacts (Figure 35). Room 25 contained 82 *pithoi* arranged in four rows, and marked with measurements of capacity.[258] Room 28 also contained 70 *pithoi* in four rows, marked with their capacity. As in Room 25, this room also contained bronze and iron objects as well as an altar in the centre, a small box for ashes, and nearby a small seat was also uncovered.[259] Overall, the total number of *pithoi* from Karmir-Blur was over 400 and the estimated capacity of these large vessels is thought to be close to 9000 gallons (probably of wine and sesame oil).

Similar facilities have been uncovered recently at the site of Ayanis. The Ayanis storage rooms were located in the western part of citadel and extended in an east-west direction. As in the other parts of the citadel, the storage rooms had two floors. The discovery of fragments of frescoes and large burnt beams in the storage rooms indicates the existence of a second floor at Ayanis.[260] Similarly, in the storage rooms of Karmir-Blur[261] and Kef Kalesi[262], there were fragments of a wall painting among the mud-brick, which indicates that they had fallen down from second floor. At Ayanis, because of the elevation of 14 m between the southern walls and the stone foundations of the citadel, space for the storage rooms was

[256] Burney 1966: 90.
[257] ARAB II 161.
[258] Barnett 1959: 4.
[259] Barnett 1959: 4.
[260] Çilingiroğlu 2001: 68.
[261] Piotrovsky 1967: 80.
[262] Bilgiç and Öğün 1965: 14.

created by terracing the surface (Figure 33). As a result of the terracing, the storage rooms of Ayanis were not all on the same level, but were connected by stairways of mud-brick or ramps and wooden staircases, as was the case at Karmir-Blur. In the western part of the citadel a total of 10 storage rooms have been uncovered.[263] Few lamps have been found within the storage rooms, indicating that the rooms had windows. By contrast, at Karmir-Blur there were numerous lamps within the storage rooms, for example in Room 29 alone the excavators found 40 lamps.[264]

The base diameters of Ayanis' *pithoi* are greater than the width of the storage room doorway; therefore it is likely that before the construction of the storage rooms, the *pithoi* were installed in the rooms.[265] These large vessels were buried in the ground up to their necks and most are inscribed with measurement units on their shoulders or potter's marks in the form of various combinations of small circles, dots or other shapes. Excavations in the storage room of Kayalıdere revealed that the *pithoi* were packed with rough stones at their bases in order to prevent them from toppling,[266] but this was a rare example. In most cases the *pithoi* were buried up to their necks and the soil around them was trampled flat to ensure stability.

Ayanis west storage Room 6 is of special interest because of the discovery of a limestone water pipe. The north wall of the room is 3.60 m wide and partially carved into living rock. The south wall extends on east-west axis and is 4.00 m wide. Due to the sloppiness of the western parts of the Ayanis citadel where the storage rooms are located, a terrace was formed by the construction of a retaining wall of mud-brick which ran in an east-west direction in order to accommodate Room 6. There were 21 *pithoi* in the northern parts of the room and most vessels were accompanied by *bullae*. There were a further 9 *pithoi* in the middle of the room and six to the south of the mud-brick terrace wall. In both cases these large vessels were arranged in two rows. The limestone pipe ran to the south of the mud-brick terrace wall and was mostly still intact with interlocking mouths that were sealed with melted lead to prevent leakage.[267] Altan Çilingiroğlu suggested that this pipe system was '*...designated to provision the population of the fortress and perhaps that of the whole city in times of distress*'.[268] Furthermore, Çilingiroğlu suggested that the pipe might have been used

[263] Çilingiroğlu 2011a: 356.
[264] Barnett 1959: 12, Pl. IIb.
[265] Çilingiroğlu 1997: 135; Sağlamtimur 2005: 140.
[266] Burney 1966: 84.
[267] Çilingiroğlu 2001: 69-70, Figs. 1-3.
[268] Çilingiroğlu 2001: 70.

to distribute oil or wine from a workshop located on the upper floor to the storage vessels.[269] However, it is hard to know the real purpose of this pipeline without analysing the deposits within it. Alternatively the pipe could have been used in a sewage system or as a waste water or rain water drain.

At Ayanis, excavation on the eastern side of the temple complex uncovered a pillared hall containing 18 *pithoi* arranged in two rows.[270] The sizes of the *pithoi* (2.5 m high and 1.0 m in diameter) uncovered in this area were much bigger than the western storage area *pithoi*. The estimated capacity of these vessels is believed to be around two tons. However, unlike the *pithoi* in the west, those in the east of the temple complex lacked cuneiform inscriptions and any associated *bullae*. This storage room also lacked small and middle sized vessels that accompanied the *pithoi* and which were observed in the western storage area. *Bullae* are known to represent taxation or collection of goods; at Ayanis around 100 *bullae* have, so far, been found in the western storage area. The inscriptions on the *bullae* clearly indicate their origin and who sent materials to the fortress from various parts of the kingdom and the surrounding areas of Ayanis. It has been argued that in the eastern storage rooms there was no need to record or measure the materials stored[271], because the pillar hall was part of the temple complex. However, there is no definitive proof that the storage complex was connected with the temple complex. The pillar hall with its *pithoi* structure has also considered as an *ašiḫusi* building by Çilingiroğlu without any evidence (see III.2.5).[272]

However, considering that there is no cistern within the Ayanis Fortress as at Çavuştepe and Toprakkale, and the closest freshwater is located in an area called Pınarbaşı, north-west of Ayanis, as well as with big elevation differences between fortress and the source of this water, it possible that these *pithoi* may have been for the storage of water, and for the needs of the citadel. Although the Pınarbaşı source should have been adequate to meet the needs of citadel and lower town, a recently discovered water reservoir to the east of Ayanis Fortress, is also believed to have supplied water to the lower town and citadel of Ayanis (see II.1.2.2). Therefore it is plausible that the *pithoi* may have been reserved for the collection of water to be consumed within the citadel when needed rather than being part of the temple complex.

Excavations at the sites of Kef Kalesi, Altıntepe, Çavuştepe and Yukarı Anzaf uncovered two store rooms from each of these sites. The Kef Kalesi storage rooms run in a narrow line for about 38 m long. Room 1 is 2.5 m wide and contains 54 *pithoi* in two rows;

[269] Çilingiroğlu 2001: 70.
[270] Çilingiroğlu 2001: 74-75; 2007: 41-46.
[271] Çilingiroğlu 2007: 43.
[272] Çilingiroğlu 2007: 44.

Room 2 is 5.90 m wide and contained 64 *pithoi* in three rows.[273] According to the excavators Emin Bilgiç and Baki Öğün, the *pithoi* of the latter room were much bigger than the former room and they state that two *pithoi* were 2 m in height. Both rooms were separated from one another with a wall measuring 2.50 m thick and 6 m wide and were also connected to each other by a door of 2 m wide at the western end.[274] The Çavuştepe storage rooms each measured 23.50 m x 16.50 m and were built on the north-south axis between the *Irmušini* temple and the Spired citadel (Figure 34).[275] Both rooms at Çavuştepe contained 100 large *pithoi* buried into the ground up to their necks.[276] The Altıntepe storage rooms were located at the north-east of the site and both rooms contained 73 *pithoi*. The *pithoi* in the easternmost rooms were arranged in regular rows of 10 along the walls and 6 across the width of the room.[277] Incised on the shoulders of six *pithoi* were Hittite hieroglyphs.[278] At Yukarı Anzaf the first room contained 12 whilst the second room 13 *pithoi*, located north of the 'kitchen' area. [279] Both rooms have a rectangular plan and measure 5 m x 10 m and were separated by a wall measuring 1.60 m.

Excavations at sites such as Yoncatepe and Patnos/Giriktepe show that the storage rooms were not just built by the kingdom or their associates, but that these facilities were also constructed by local rulers. For example, Yoncatepe and Patnos/Giriktepe are considered to have been constructed by local rulers. At Yoncatepe a storage room measuring 4.50 m wide and 9.45 m long contained 13 *pithoi* of relatively small in size (the *pithoi* brims were between 35–68 cm and in height, between 85 cm to 1.00 m) with a large number of jugs with perpendicular handles and trefoil brims also uncovered.[280] In a brief article Kemal Balkan[281] mentioned a room with *pithos* from Patnos/Giriktepe (giving the dimensions of a *pithoi* 1.65 high and 1.20 m wide), but gave no further details. Both sites' storage rooms illustrate the importance of these facilities in Urartian society as a whole.

At Kayalıdere a vast storage area (only partially excavated) containing 25 *pithoi* of varying sizes was discovered at the northern end of the upper citadel.[282] Access to the storeroom was from a door leading through the wall dividing it from the terrace above. The

[273] Öğün 1967: 486, Figs. 5-8.
[274] Bilgiç and Öğün 1965: 3-4.
[275] Erzen 1988: 9.
[276] Erzen 1988: 9, Pl. IX a.
[277] Özgüç 1969: 76-78, Fig. 34, Pl. XXVIII and XXIX.
[278] See Klein (1974: 77-94) on hieroglyphic inscriptions *pithoi* of Altıntepe.
[279] Belli and Salvini 2006: 58, Figs. 3-9.
[280] Belli and Konyar 2001a: 151, Fig. 1.
[281] Balkan 1964: 241.
[282] Burney 1966: 83-90, Figs. 13, 14, 15, Pl. XIV a, b, c, XVa.

terrace door is 1.20 cm higher than the level of the storage room and it has been suggested that access to the *pithoi* was either by a short ladder from the doorway, or by wooden gang-planks[283], as in the case of Bastam. The Bastam storage room was located in the pillar hall (38.50 m x 6.50 m) which contained 75 *pithoi* in three rows. Access to them was provided by heavy wooden ladders on either side of the *pithoi*.[284]

Similar facilities existed on other sites such as Armavir, Arinberd and Toprakkale.[285] In one of the store rooms of the western fortress of Armavir there were 68 *pithoi* with an estimated capacity of 1,250 litre of wine.[286] Six *pithoi* storage rooms were found at Arinberd containing more than 200 large *pithoi* buried up to their shoulders. Two storage rooms close to the temple complex, containing 11 and 18 *pithoi* respectively, were uncovered.[287] A Turkish expedition at Toprakkale also uncovered 14 *pithoi* in three rows in a heavily burnt room (Room I).[288]

Table 6. Construction of *É ’ari* and their capacities in *Kapi* and *BANEŠ*

King	**Texts (**CTU)	**Location**	**Capacity (*kapi* and *BANEŠ*)**
Minua			
	A 5-66	Van Kalesi	23,190 *kapi*
Argišti I			
	A 8-27	Van	10,000 *kapi*
	A 8-28A-E	Arinberd	10,100 *kapi*
	A 8-29	Anzavurtepe	32,057 *kapi*
	A 8-30	Armavir	10,100 *kapi*
	A 8-31	Unknown[a]	13,830 *kapi*
	A 8-32	Erzurum Museum	30,X00 *kapi*
	A 8-32a	Unknown[a]	7,305 *kapi*
	A 8-33	Pirabat-Eleşkirt-Ağrı	Not known
	A 8-34	Pirabat-Eleşkirt-Ağrı	2,600 *kapi*
Sarduri II			
	A 9-20	Arinberd	12,600 *BANEŠ* 11,500 *BANEŠ* 24,100 *BANEŠ*
	A 9-21	Arinberd	5,100 *kapi*

[283] Burney 1966: 84.
[284] Kleiss 1979: 78 Fig. 87.
[285] Lehmann-Haupt 1931: 467; Erzen 1962: 402-403, Figs. 22-23.
[286] Martirosyan 1967: 228.
[287] Hovhannissian 1973a: 35, Pl. 43-44.
[288] Erzen 1962: 403, Figs. 22-23.

	A 9-22A-B	Arinberd	1,100 *kapi*
	A 9-24	Arinberd	10,100 k*api*
	A 9-23	Arinberd	Not giving
	A 9-19	Armavir	11,884 *kapi* 8,200 *BANEŠ*
	A 9-28	Çavuştepe	5,000 *kapi*
	A 9-30	Çavuştepe	5,400 *kapi*
	A 9-27	Çavuştepe	5,800 *kapi*
	A 9-29	Çavuştepe	6,500 *kapi*
	A 9-32	Çavuştepe	8,000 k*api*
	A 9-34	Çavuştepe	12,432 *kapi*
	A 9-31	Çavuştepe	13,200 k*api*
	A 9-35	Çavuştepe	15,3XX k*api*
	A 9-33	Çavuştepe	19,000 *kapi*
	A 9-26	Patnos-Anzavurtepe	17,020 *kapi*
	A 9-25	Patnos	18,400 *kapi*
Rusa II			
	A 14-5	Armavir	1,432 *kapi*
	A 14-6	Arinberd	6,848 *kapi*

Note**:** **X** indicates the presence of a number that cannot be read. **a**. The provenance of these inscriptions is not known and they are displayed in Museum of Anatolian Civilisation in Ankara.

II.1.8. Conclusion

Overall, the archaeological and textual evidence suggests that agricultural areas that were located in the Lake Van, Urmia, Murat River and Araxes River basin were the focus of the Urartian rulers Minua, Argišti I, Sarduri II, Rusa I and Rusa III. These areas were developed with new settlements, water reservoirs and canals allowing for the development of new orchards, vineyards and fields. It is also likely that the central part of the kingdom received agricultural products, not only from the surrounding areas of the Van Lake basin, but from all over the vast territories owned by the state. Therefore, Urartian kings built additional storage areas in order to store surplus agricultural products in addition to the ones that had already been built to store crops from Van and its surrounding areas.

The evidence from Lake Van, the upper Murat, the Araxes River basin and Lake Urmia illustrate that the Urartian kings were actively involved in the organisation of arable land, as exemplified by the construction of important administrative and economic centres. Furthermore, there is a significant increase in the number of Urartian settlements during the

kingdom's lifetime throughout eastern Anatolia, north-western Iran and Armenia, which indicate a significant rise in population. As a result, more land was cultivated during this period in order to support the increasing number of people who occupied the central part of the kingdom or areas like the Araxes and Murat River basins or Lake Urmia.

Although archaeological and textual evidence overwhelmingly suggests that the state or monarch was involved in the organisation of agricultural areas and the construction of storage facilities, it should remembered that all of the archaeological evidence originated from sites that were built by the monarch, in particular from the mid-7th century BC sites. Additionally, the textual material from which this type of conclusion was drawn was also the direct product of the Urartian kings. A more nuanced approach is required that takes into account textual evidence from some of the Ayanis storage rooms, making particular note of bullae that mention the incoming and outgoing agricultural products into state storage facilities from various parts of the kingdom, which indicates that not all of the agricultural land in Urartian territories was under the control of the state or monarch. In addition, the re-interpretation of archaeological evidence from sites such as Yoncatepe and Patnos/Giriktepe show that storage facilities were not built solely by the state but also by local rulers.

II.2. ANIMAL HUSBANDRY

II.2.1. Introduction

This chapter sets out to review critically the evidence for animal husbandry in Urartu, from the available sources such as inscriptions, faunal remains, ethnographic data[1], and ethnographic studies of modern animal husbandry.[2] I will look at the role of herding in the subsistence economy of Urartian society and both the changes and continuity in patterns of livestock use over three millennia in eastern Anatolia, north-west Iran and Transcaucasia. Although there has been intensive research on different aspects of Urartian society, the role of the central government in the organisation of livestock management and the kinds of animals that were bred in the Urartian highlands is not well understood. However, recent excavations and the discovery of numerous inscriptions in the Urartian highlands provide enough data to allow us to analyse the role of the central government may have played in animal husbandry, look at the various tribes who made up Urartian society and examine the livestock breeds and management practices used by Urartian farmers. In addition, recent studies of domesticated animals[3] (sheep, goat, and cattle), the organization and acquisition of animal resources[4], and the relationships between urban consumers and pastoralists[5] have substantially increased our understanding of animal management along with the distribution of resources that were employed by ancient Near Eastern farmers.

Prior to the formation of the Urartian kingdom, most of eastern Anatolia, north-west Iran, and the Transcaucasia highlands were controlled by tribal groups. This situation remained throughout the Late Bronze and Early Iron Ages. It is known that these tribal groups formed a political confederation because in the third year of his reign (1112 BC) the Assyrian king Tiglath-Pileser I confronted one such tribal coalition, headed by 23 kings from eastern Anatolia, near Karasu in the Murat River Valley.[6] After defeating the coalition in battle, he was confronted by another force led by 60 kings from Nairi.[7] After defeating this force, Tiglath-Pileser I mentions that he captured '*120 of their armoured chariots*' in battle and '*led away great herds of horses, mules, grazing cattle (?) and the flocks of their pastures,*

[1] Hopkins 2003; Stirling 1965; Yalçın-Heckmann 1993; Yakar 2000; Brant and Glascott 1840.
[2] Koday 2005; Arınç 2011: 81-86.
[3] Dyson 1953; Redding 1985; Zeder 2001.
[4] Hesse 2002; Atıcı 2005; Wattenmaker 1987; Wattenmaker and Stein 1986; Zeder 1988, 2003.
[5] Crabtree 1996.
[6] Diakonoff 1984: 69 no 124.
[7] Nairi was located to the north of Taurus Mountains, Murat River valley and Lake Van basin (Salvini 1998a: 87-91).

in countless numbers. My hands captured all the kings of the countries of the Nairî' as well as imposing as tribute of '*1,200 horses and 2,000 head of cattle*'. Presumably, this tribute was to be paid annually by the Nairi coalition (ARAB I 236). Assyrian texts indicate that until the formation of the Urartian kingdom, the tribes of Anatolia and the Transcaucasian highlands used their extensive herds and livestock as their principal means of subsistence.[8]

The inscriptions relating to the military expeditions of the Urartian kings suggest that some of these campaigns were directly concerned with the acquisition of booty in the form of livestock such as cattle, horses, sheep and goats, as well as precious metals (see Table 7). There is some relevant data in Urartian inscriptions, and in particular those dating to the reign of Argišti I (A 8-3 / UKN 127) and Sarduri II (A 9-3 / UKN 155) which mention large numbers of animals. At the end of their annual expeditions, Urartian rulers usually recorded the total number of animals taken from the territories they had conquered. These generally included cattle, sheep, goats, horses and occasionally camels and donkeys (see Table 7). However, these sources only contain general information about the number of livestock, and the information applies to many countries and regions. Therefore, it is hard to say precisely where these animals were captured.

Unlike the Urartian chronicles, Assyrian texts list the animals captured after each victorious military expedition, but they do not specify the exact number of each different species. They do, however, list the animals captured after the conquest of each individual country.[9] For example, when Sargon II captured Mušašir, he gave the exact number of animals that he carried off to Assur.[10] We can therefore reconstruct some of the livestock territories of the Urartian kingdom with the help of the Assyrian chronicles. Particularly notable in this respect is Sargon II's account of 'letter to the God Assur', because it contains much data concerning the land to the west of Lake Urmia and the southern parts of Urartian territory.

[8] It has been assumed that most of the Assyrian military expeditions aimed to acquire iron and other metals for the Mesopotamian market. However, Burney (1996: 1-16) expressed doubts and argued instead that Assyrian military campaigns sought to capture highland livestock (horses, cattle and sheep). Hancar (1949) also argued that, prior to the Urartian state, the people of the Ararat Plain were mainly engaged in raising cattle, horses, mules, donkeys, oxen, sheep and goats.

[9] Tiglat-Pileser (ARAB I 236, 275, 301, 305); Tukulti-Urta II (ARAB I 414); Assur-Nasir-Pal (ARAB I 447); Assur-Nasir-Pal (ARAB I 498, 501); Shalmaneser III (ARAB I 599, 605, 606, 607); Shamshî-Adad (ARAB I 718, Tiglath-Pileser III (ARAB I 785) Sargon II (ARAB II 13, 168).

[10] '*... 12 mules, 380 asses, 5525 cattle, 1235 sheep, I added them and brought them inside the wall of my encampment*' ARAB II 172.

In addition to Urartian and Assyrian texts, archaeological remains from Karmir-Blur[11], Erebuni[12], Horom[13], Toprakkale[14], Yukarı Anzaf[15], Korucutepe[16], Bastam[17], Karagündüz[18] and Kayalıdere[19] all contain relevant data regarding animal husbandry in the Urartian territories (see Tables 8 and 9).

II.2.2. Contemporary Animal Husbandry

Animal husbandry is a common economic activity undertaken by eastern Anatolian farmers especially in the provinces of Erzurum, Ardahan, Ağrı, Van, Hakkâri and Kars (Map 2), where long winters and limited arable land forced people to breed livestock. Sheep are the most common livestock (Figures 36 and 37), followed by goats and cattle (Figure 38). According to the Turkish Statistical Institute (DIE) report of 2009, the eastern Anatolia region had 32.2 % of the sheep, 22.9 % goats and 21.5 % cattle bred in Turkey[20], which highlights the importance of livestock to this region's economy. In addition to their economic importance, animals also have a symbolic value especially since the introduction of Islam. During the *Kurban Bayramı* festival, most households would sacrifice a sheep/goat or a cow, which is considered to be socially privileged.[21]

In rural areas, especially in villages, poultry such as chickens, turkey, geese, and ducks are bred almost by every household and these animals form an important part of the region's economy.[22] But the role of meat in the human diet is still comparatively low with the exception of poultry meat, as opposed to secondary products such as milk, cheese, and yogurt, which are the main sources of protein. Milk transforms into secondary products such as cheese, yogurt, and butter. Cheese is one of the most important elements of people's diet and is consumed fresh or stored to be consumed during the winter.

Apart from cattle, sheep, goats and poultry there are also other animals such as horses, donkeys, and dogs. For example, horses and donkeys are bred for transportation and

[11] Piotrovsky 1969: 154-157, 1970: 23; Harutjunjan 1964: 181.
[12] Harutjunjan 1964: 180.
[13] Obermaier 2006: 141-195
[14] Lehmann-Haupt 1931: 476-77.
[15] Belli 1999a: 23-24.
[16] Boessneck and von der Driech 1974: 110.
[17] Zimansky 1988: 107; Boessneck and Kokabi 1988: 175-262.
[18] Sevin 1999: 162.
[19] Burney 1966: 92.
[20] Arınç 2011: 82, table I.8.
[21] Personal observation in the Elbistan district of Kahramanmaraş province.
[22] Personal observation in the village of Çiçek in Elbistan.

ploughing [23] as late as the second half of the 20th century until the introduction of tractors into arable agriculture.

In eastern and central Anatolia, where many mixed farming communities live today, most households gather grass and fodder (Figure 39) throughout the summer which is then used to feed their livestock during the long winter months, when the animals are kept in stables.[24] James Brant and A.G. Glascott during their visit to the Van Lake basin and eastern Anatolia in 1838, mention that near Bitlis large stacks of hay were collected[25] by the semi-nomadic tribes to feed their herds during winter.[26] Throughout their journey in eastern Anatolia, Brant and Glascott mention the widespread occurrence of *kışlak* (winter quarters) among Kurdish tribes[27], which is still widely practised in some parts of eastern Anatolia by the semi-nomadic people who live in higher altitudes with their herds during the summer months, but migrate to lower plains and valleys in the winter quarters.

Most households who own livestock in most parts of Anatolia, in particular in rural areas, would hire a shepherd (Turkish: *çoban*) - either by leading sheep-owners or by village elders, who would take the animals away from cultivated areas to pastures during the day time and return with them in the evening. Usually cattle are pastured separately, while goats and sheep are pastured together.[28]

Winter is the lambing season; the animals are kept in stables and fed wheat and barley chaff as well as other dried grasses and fodder.[29] In early spring, the animals are led to uncultivated areas – pastoralists or semi-nomadic peoples usually spend up to five months in yayla, starting in early April until the harvest in late August. The Turkish word yayla has been defined as '*...a place to go for a definite period during the summer for: grazing of animals, conducting agricultural practices, supplying livelihood or even rest, which lies outside of the subsistence boundaries of a village, is usually joint property of a village, and although far away, is wholly or partially tied to that area with socio-economic connections,*

[23] Stirling 1965: 34, 58.
[24] Yakar 2000: 186-196.
[25] In the Doğubeyazıt and Çaldıran districts of Ağrı province herd owners collected hay and grass on uncultivated areas to feed their animals during the long winter months (Personal observation in the summer of 2011).
[26] '*I observed several fields of unripe grain, notwithstanding the summer had been dry and hot. The village contains 150 Armenian, and gives Kishlak to forty Kurd families; there was a very large stock of hay collected for their use. It is curious to see the immense ricks which are usually placed on the flat roofs of the houses, and give the first notice of one's approach to a village. The hay is twisted into bands, and made up into large bundles, which are neatly stacked in the form of a truncated pyramid, without thatch'*. Brant and Glascott 1840: 376.
[27] Brant and Glascott 1840: 348.
[28] Stirling 1965: 58.
[29] Stirling 1965: 138.

or a secondary area added to a village's actual subsistence area' by Necdet Tunçdelik.[30] As this definition indicates, most rural communities in Anatolia, in addition to watching their herds in the yayla, also carry out other activities such as cutting grass for fodder as well as engaging in agriculture and horticulture in some areas. Jak Yakar[31] states that in yayla villages, where agriculture plays an economic role, people live in houses whereas semi-nomadic and pastoralists live in black tents.

Taking their livestock to highland pastures allows farmers to feed their animals away from cultivated fields.[32] Herds graze in uncultivated areas and high plateaus through late spring until the cereals harvested in late August.[33] After the harvest, herds are moved back into the agricultural areas. Here, animals graze in the fields, thereby helping to clear weeds and fertilize the soil. The survival of the herds depends on the agricultural produce gathered during the long, harsh winter months.

II.2.3. Written Sources of Urartian and Assyrian

Pasturing large flocks and herds requires extensive tracts of land that are not otherwise suitable for cultivation. Such areas include the highlands of eastern Anatolia, Transcaucasia and north-western Iran as these would have been ideal places for large numbers of animals. However, not all parts of the highlands could have sustained year-round grazing, and therefore it seems likely that mobile tribal groups shifted their stock on a seasonal basis. During the winter months north-western Iran has much more moderate weather than eastern Anatolia, and the same is true of the Van basin in eastern Anatolia, which would have been an ideal place for pastoralists during the summer.[34] In the ancient Near East (even until as recently as the late 20th century) during the spring and summer months villagers or families who own livestock spent much of their time on the move, living in black tents (Turkish: *kara çadır*); moving with their cattle, sheep and goats from one region to another in search of fresh pastures (Figure 41).

Cattle, sheep and goats must have been taken to highland pastures by shepherds (^{LÚ}*NA.KAD*)[35], who would have played a vital role in Urartian society. For example, in the

[30] Tunçdilek 1974: 63.
[31] Yakar 2000: 132.
[32] Tunçdilek 1974: 62-64.
[33] In rural areas animal dung (Turkish: *tezek*) is an important source of fuel (Figure 40). Dung is collected from stables and fields to be used as a fuel in winter months.
[34] Yakar 2000: 441.
[35] CT Kb-4 Ro line 4.

large hall of Arinberd (Erebuni)[36] there are depictions of a shepherd leading a flock; in front of him a black dog can be seen.[37] The shepherd is carrying a new-born lamb in his hands. Elsewhere on the wall, there is a depiction of a sheep grazing[38], a cow grazing in a pasture[39], and a hunting scene of a wild bull that has been struck by a hunter's arrow in front of a chariot[40], and a figure of a calf hiding in a growth of reeds.[41] Iconographic evidence such as this provides useful data about the diverse animal species of the region.[42]

The hilly and mountainous countryside of the Urartian territory is and was a perfect place for rearing goats and sheep, and their wool was used in textiles (see II.5.2). Goats and sheep were also used for their meat and milk, which was processed to make cheese. Cattle, sheep and goats were also used regularly for sacrifices at temples, the Haldian Gates, and open air-shrines. A major by-product of stock-rearing was leather, which was used for such things as harnesses, shoes, sandals, and strap fastenings.

Urartian kings recorded each successful military expedition and listed captured booty beginning with the number of prisoners, different categories of animals, and occasionally precious metals (see Table 7). Cattle (^{GUD}*paḫini*), sheep (^{UDU}*šuše*), goats (*UDU.MÁŠ-li = niqali*), horses (*ANŠE.KUR.RA*$^{M\ EŠ}$*/ ḫu-šá-a*) and occasionally camels (*ANŠE.A.AB.BA.*^{MEŠ}) constituted the bulk of the booty from each campaign. A quick glance at the annals of the Urartian kings suggests that some of these expeditions were directed against weak opponents such as Diauehi in the north-west, and Etiuni in the northeast (Transcaucasia) Buštu, Urme and Mana to the east.

Urartian and Assyrian texts indicate that in the west and south-western parts of the Lake Urmia basin, in the regions of Gilzan, Mušašir, Buštu, Mana Uishdish, Ushkaia, Sangibutu, Ulhu and Armarili, animal husbandry was very significant and each area may have specialised in certain breeds (see Table 31). For example, Sargon II in 714 BC states that he burned '*the life of its cattle'* in Armarili, which was probably straw that had been

[36] The date of the great hall (columned hall or apadana) at Arinberd has long been a subject of debate along with a similar building at Altıntepe (Hovhannissian 1973b: 59-60; Özgüç 1966: 44-46; Çilingiroğlu 1978: 97-100; Deschamps *et al*. 2011: 121-140; Karaosmanoğlu and Korucu 2012: 131-148). However recent discovery of Achemenid period pottery at Arinberd columned hall indicates a date between the end of Urartu to the beginning of Achemenid period (Deschamps *et al*. 2011: 131-133).
[37] Hovhannissian 1973b: 72, Figs. 39-41.
[38] Hovhannissian 1973b: Fig. 40.
[39] Hovhannissian 1973b: Fig. 38.
[40] Hovhannissian 1973b: Fig. 31.
[41] Hovhannissian 1973b: Fig. 33.
[42] There are depictions of animal among the wall painting of Altıntepe; in particular the scene of a lion carrying a young deer on its mouth is very interesting (Özgüç 1966: 54, Pl. II-3, III-1, Fig. 36).

stored to feed herds during the winter.[43] The Assyrian king Salmaneser III is known to have taken tribute in the form of cattle, sheep and horses from Zanziuna, near Armarili.[44] The Urartian king Rusa I is likewise known to have built irrigation canals that allowed the development of agriculture in the city of Ulhu in Sangibatu province, thereby creating the necessary conditions for animal husbandry. Sargon II noted that:

'*...the ground of his uncultivated areas he* [Rusa] *made like a meadow, flooding it abundantly in springtime (and) grass and pasturage did not fail (cease), winter and summer; into stamping grounds (corrals) for horses and herds he turned it*. *The camel in (?) all of his submerged country he trained (?) and they pumped (poured) (the water into) ditches*' (ARAB II 160).

Furthermore, Sargon II mentioned that the land of Sangibatu had a special breed of horses, which were used by the Urartian royal army. This is clear when, he stated:

'*...from Ushkaia I departed, to the land of Baru, on which it depends for its beasts, which they also called Sangibutu, I drew near. Tarui and Tarmakisa, strong, walled cities situated in the plain of the land of the Dalaia, where he had great supplies of grain, whose walls were very strong, whose outer walls were well built, whose moats were very deep and completely surrounded them; in the midst of which are stabled the horses, reserved for his royal army, which they fatten each year*' (ARAB II 159).

Horses were often harnessed to chariots (*giš*GIGIR) and used for the transportation of goods. All of the written sources suggest that cattle and horse breeding in Armarili occupied a special place in Urartian society, particularly in the regions of Sangibatu and Armarili.

Horses[45] were indispensable to the army and were used as means of transport in the vast Urartian countryside. They were probably reared under state supervision in specific areas of the kingdom. The importance of horses to the Urartians may be indicated by the Bostaniçi inscription from the Van region, which states that a horse called 'Artsibi', which was ridden by Minua, jumped a distance of about 37 feet.[46] Urartian and Assyrian written sources indicate that the regions of Sangibatu (Baru), Hubuskia, Ushkia (Zaranda), Diauehi, Eutini

[43] '*From the strong cities of the land of Sangibatu I departed, to the district of Armarili. ... The harvest, the support of its people and the chaff (stubble?), the 'life' of its cattle, I burned like brush, and made its plain a barren waste*.' ARAB II 165.
[44] ARAB I 606.
[45] Xenophon also praises horses of the Armenian (eastern Anatolia) and informs us that local people reared horses for tribute to the great king of Persia (Anabasis IV.5: 34-36).
[46] A 5-91 / UKN 110.

and Mana specialised in horse-rearing.[47] In his 'letter to the god Assur', Sargon II mentions that the people of Ushkia in the province of Zaranda[48] were known both for their knowledge of horse-riding and for their skills in horse-rearing for the Urartian army. Moreover, he mentioned that in the land of Baru, horses were reserved for the royal army of Rusa I.[49] Stephanie Dalley[50] suggests that some Urartian individuals who were expert horsemen might have served as a small, low-ranking cavalry unit in the Assyrian royal army during the reign of Sargon II. Furthermore, at Van Museum there is a fine sculpture of a riderless war chariot dating to the 8th century BC (Figure 67).[51] The chariot is small and rectangular in shape and the horses lack harness fittings. At the site of Arinberd (Erebuni), in the large hall of the palace, there were depictions of horses and includes, for example, a gambolling horse set against a dark-blue background.[52] Urartian period belts also depicted scenes of hunting[53], figures of horses and chariots and soldiers on horseback.[54]

A building identified as a stable for horses at the eastern part of Bastam, where a room of 47 m long and 9 m wide with three aisles along with a number of other small rooms was uncovered.[55] Kleiss[56] suggested that 35 horses could stable in each rows of this building. The enclosure had an unpaved central nave and two paved side areas.[57] A similar building was also identified as a stable at the north gate of Bastam.[58]

The Mannean kingdom, whose territories extended along the south and east coasts of Lake Urmia, played a prominent role in animal husbandry, and its rich herds were plundered by the Urartian state. Assyrian written sources state that during the reign of Salmanaeser III[59] (860-825 BC), and Shamsi-Adad (825-812 BC)[60], the Assyrian kingdom received horses as tribute from the Manneans.

[47] At Karmir-Blur from the southern areas of the citadel, horse skeletons, (Harutjunjan 1964: 182; Piotrovsky 1969: 156) a horse head (Piotrovsky 1969: 157, Pl. 107) made of bronze were discovered along with horse harness, which included plates, blinkers, round buttons, bridles with bone cheek-pieces, and harness bells (Piotrovsky 1970: 27).
[48] ARAB II 158.
[49] ARAB II 159.
[50] Dalley 1985: 42 and 48.
[51] Çilingiroğlu 1997: 140.
[52] Hovhannissian 1973b: 70, Fig. 35.
[53] Kellner 1991b: 146, Figs. 3- 4; Khanzayan *et al*. 1973: 181, Fig. 170.
[54] Kellner 1991b: 143, Figs. 1-2.
[55] Kleiss 1980: 299-300.
[56] Kleiss 1980: 300.
[57] Forbes 1983: 56.
[58] Forbes 1983: 56.
[59] ARAB I 588.
[60] Third campaign ARAB I 718.

The Urartian state received tribute in the form of animals from its conquered enemies on a regular basis and it also drove away substantial numbers of animals during raids into enemy territories (see Table 7). It is known that the Urartian kings Argišti I (A 8-3, III, IV, V, V / UKN 127, III, IV, V and VI) and Sarduri II (A9-3 I, V/ UKN 155 A-B) made repeated campaigns into Mannean territory and were able to take numerous herds of cattle, sheep, and goats (see III.4.2). For example, the Horhor Chronicle of Argišti I refers to Mannean territory on more than five occasions. During one campaign in Mannea and Buštu Sarduri II drove away 308 horses, 8,221[61] cattle, as well as 32,538 sheep and goats (A 8-3 V / UKN 127 V). On another occasion, he captured 170 horses, 62 camels, 2,411 cattle, 6,140 sheep and goats from Mannean territory (A 8-3 IV / UKN 127 IV). To judge from Urartian and Assyrian texts dating from the 8th and 7th centuries BC, the economy of Mannea and its neighbouring territories was based to a large extent on animal husbandry and agriculture.

Another region raided regularly by the Urartian army was the Lake Sevan basin. In the Hazine Kapısı inscription, Sarduri II stated that from the tribes (Kamniu, Adaḫuni, Arquqi, Luipruni, Ešumuai, Qu'albani, Uḫuni and Teriani, Uškia, Bamni) of the southern coast of Lake Sevan basin, he took 3,500 horses, 40,353 head of cattle and 211,470 sheep and goats (A 9-3 VI / UKN 155 F lines 31-33). This is one of the largest numbers of animals mentioned in any single campaign by an Urartian king. Due to it being an enclosed basin with high rainfall and high altitude, as well as inadequate agricultural land, in the Lake Sevan basin the uncultivated areas of this region are covered with fresh grass all year round.[62] This grass on the high plateaus thus provided livestock with an important food source. Therefore, if we accept Sarduri's figures we might conclude that in the Lake Sevan basin, animal husbandry was highly developed and that it was the primary economic activity of the communities of the region during the first millennium BC.

Table 7. Urartian kings, their opponent and booty list of Animals

King	Texts (CTU)	Opponent	Cattle	Sheep & Goats	Horses	Camel	Donkey & Mules
Išpuini							
	A 3-4 Ro; A 3-4 Vo	Etiuhi	13,540	20,785	26	-	-
	A 3-9	Paršua	X2,000	X5,000	1,120	365	483

[61] Some of the Urartian cuneiform inscriptions due to erosion or destruction cannot be read.
[62] Biscione *et al.* 2002: 9; Babayan *et al.* 2006: 352; Hmayakyan 2002: 283-284.

Minua							
	A 5-2 A-F	Etiuni	7,616	15,320	1,733	-	-
Argišti I							
	A 8-2 Ro	Irkiuni, Mana, Assur	2,251	8,205	286	-	-
	A 8-2 Ro	Aškaia, Šatiraraga Ušini	4,909	19,550	290	101	-
	A 8-2 Vo	Diauehi	14,478	73,770	4,426	-	-
	A 8-3 I	Diauehi, Šeriazi, Zabaḫae, Eriahi, Apuni	35,015	X1,829	1,104	-	-
	A 8-3 II	Militia	17,964	-	-	-	-
	A 8-3 II	Etiuni	X	126,000	1,280	-	-
	A 8-3 II	Uburda, Uišuši, Ḫaḫia	X,803	11,626	232	-	-
	A 8-3 III	Buštu, Paršua	X,987	...x5	x	-	-
	A 8-3 III	Buštu, Ḫ[a-x-x-x, Arḫau	6,257	33,203	606	-	-
	A 8-3 IV	Mana, Buštu, Ijani	22,529 11* buffalo	36,830	790	-	100
	A 8-3 IV	Mana, Irkiuna	2,251	8,205	286	-	-
	A 8-3 IV	Buštu, Šatiraraga, Ugišti	4,909	19,550	290	110	-
	A 8-3 V	Mana	2,411	6,160	170	62	-
	A 8-3 V	Mana, Buštu	8,221	32,538	308	-	-
	A 8-3 V	Etiuni, Eriaḫi, Uiteruḫi	29,504	60,305	12,00x	-	-
	A 8-3 VI	Urme	X,744	48,825	25	-	-
Sarduri II							
	A 9-1	Militia	5,747	19,062	352	-	-
	A 9-3 I	Mana, Babilu, Baruata	12,300	32,100	2,500	-	-
	A 9-3 I	Etiuni, Liqiu, Irkuaini	8,528	18,000	-	-	-
	A 9-3 I	Urme	2,538	8,000	-	-	-
	A 9-3 II	Qulha, Huša, Abilianiḫi	X,090	10,897	65	-	-
	A 9-3 II	Eriaḫi, Abilianiḫi	8,560	25,170	500	-	-
	A 9-3 III	Uiteruḫi	17,300	31,600	1,500	-	-
	A 9-3 IV	Puluadi, Eriaḫi	16,529	37,685	1,613	115	
	A 9-3 V	Mana, Eriaḫi	6,665	25,735	-	-	-

	A 9-3 VI	Arquqi, (Adaḫuni, Luipruni, Ešumuai, Kamniu, Qu'albani, Uḫuni, Teriani)** Uškia, Bamni	40,353	211,470	3,500	-	-

* * Tribes or ethnic groups (Salvini 2002a: 53) Note: The number of animals giving UKN and CTU varies considerably. In this table Salvini's readings (CTU) of numbers are giving. **X** indicates the presence of a number that cannot be read.

II.2.4. The Role of Animals in Urartian Religion

Animals were one of the most important elements of the official state ceremonies that took place in temples and at open-air shrines. A cuneiform inscription on the northern slope of Van Kalesi, below the upper citadel's natural terrace, reveals that before animals were taken for sacrifice they were kept in royal stables called '*siršini*'. The *in situ* cuneiform inscription (Figure 54) dated to the reign of Minua states that:

'*Minua son of Išpuini, has made this place a siršini. Minua speaks; whoever takes the oxen from here, whoever takes the herd from here, whoever commits a crime against this inscription may the god Haldi, Teišeba, Šivini, destroy them under the sun'* (A 5-68 / UKN 63).

The *siršini* is carved out of bedrock and is 20 m long, 9 m wide and 2.5 m in height (Figure 42).[63] An inscription from Karmir-Blur (A 12-2 / UKN II 448) mentions that *mare*-men (a group of personnel in the fortress)[64] may make sacrificial offerings to the Haldian Gates and temple from '*serhane*(-house)', where animals were kept before they were used as sacrifices at religious sites.[65] It is interesting to note that there were two separate stables mentioned in Urartian inscriptions; one belonging to the royal family and the other for palace officials.

The Meher Kapısı rock niche inscription is a very important source of information on the Urartian state pantheon, as it provides useful information on the socio-economic life of the Urartian state. This rectangular niche is 4 m high and at its widest point is 2.70 m across (Figure 43).[66] Meher Kapısı is in the shape of a double-stepped door and is part of a south-

[63] Tarhan and Sevin 1991: 431.
[64] Diakonoff 1991a: 15 no. 27.
[65] Diakonoff (1991a: 15 no. 26) indicates that *serhane*(-house) might derived from '*sê'* '*shepherd*' (*s(e)-er(e)-h-an-ə).
[66] Belli 1999a: 29-33; Çilingiroğlu 1997: 153.

facing open-air shrine that is reached by rock-cut stairs.[67] The inscription lists, in hierarchical order, all the Urartian deities (79 gods and goddesses)[68] and the types of sacrificial animals that should be offered to each, together with the times at which they should be sacrificed. This information is repeated twice, making it a uniquely valuable source of information.

Urartian kings performed regular sacrifices to the gods to show their gratitude. In order to perform these animal sacrifices, a regular supply of animals was needed. Providing a regular supply of animals for sacrifice for the Urartian state must have been a constant occupation. However, one way of making sure that animals were regularly delivered to the temple was to ensure that after each military expedition some of the seized animals were diverted to the temple. For instance, when Išpuini visited the city of Mušašir with his son Minua, he brought with him a total of 9,120 goats and sheep, as well as 1,112 cattle which were then sacrificed to Haldi. Išpuini also mentioned that he brought with him a further herd of 12,480 large goats for dedication to the Haldi temple, as recorded in the bilingual inscription at Kelishin (Assyrian-Urartian).[69] The size of these herds is staggering and, if the figures are to be believed, under the centralized system of the kingdom, the state must have owned huge numbers of livestock. It is therefore likely that there were administrative systems for handling domesticated animals, as illustrated by the Kelishin bilingual inscription.

The national god Haldi was the head of the Urartian pantheon (see III.5.2 for Urartian monarch and Haldi) and according to the Meher Kapısı inscription 17 cattle, six lambs, and 34 sheep should be sacrificed to him in the '*Month of the Sun God'*. The inscription also states that a number of animals should also be sacrificed to Haldi's greatness, youthfulness, mightiness, weapons, gates, and powers. There are no other gods or goddesses in the Urartian pantheon who received such a large number of sacrificial animals, although this is hardly surprising given Haldi's unique position. For the remaining gods and goddesses, the number of sacrificial animal declines in line with their status.[70] For example, the god Turani is ranked fifth on the list with only one cow and two sheep being sacrificed to him, and the goddess

[67] Belli 1999a: 29.

[68] Newly conquered deities were incorporated into the state pantheon after the erection Meher Kapısı. For example, the temple of Erebuni (Arinberd) was dedicated to the god Iubša, a local god of Transcaucasia, which is not represented in Meher Kapısı, by Argišti I.

[69] Stelae located on Kelishin pass, between Iran-Iraq borders, on the south-west of Lake Urmia (Benedict 1961; A 3-11 / UKN 19).

[70] A shield from the site of Yukarı Anzaf (Belli 1999a: Fig. 17) was suggested to show the Urartian gods (the first 13 gods the rest of the shield is broken) in the sequence given in the Meher Kapısı inscriptions. The scene depicted Urartian gods on different animals or composite creatures; for example the god Teišeba stands on a lion (Belli 1999a: 43, Fig. 19, Pl. 52), Šiuini on a bull (Belli 1999a: 46, Fig. 20, Pl. 53) and Hatuini on a composite winged creatures (Belli 1999a: 48, Fig. 21, Pl. 54) like of Turani who stands on a composite winged goat (Belli 1999a: 50, Fig. 22, Pl. 55).

Ardi, who is last on the list, received just two sheep. In total, 105 cattle, over 300 sheep and six goats are listed at Meher Kapısı, which is an indication of the importance of animal husbandry to the Urartian state and its official religion. However, the inscriptions provide no information about whether the sacrifices were to be performed daily, monthly or annually.[71] The *'Month of the Sun God'* may be interpreted as autumn, when crops, fruits and grapes were ready for harvesting in most parts of the Urartian territory. There is also no information about when sacrifices should be made to the lesser Urartian deities. The fact that in the Meher Kapısı inscription the planting of vineyards, orchards and agricultural activities as well as the harvesting of the vineyards are mentioned suggests that either these ceremonies took place during the sowing time in spring or that they were performed at harvest time, to ensure a successful crop yield. Moreover, it is not known if these religious ceremonies were only conducted at the capital Tušpa, and/or in other major Urartian centres.

In order to ensure the Urartian kingdom's political, economic, military and social stability, Urartian kings actively participated in major religious festivals at cult centres[72], most of which involved the sacrifice of cattle, sheep and goats. To commemorate these events the kings usually erected stelae (*pulusi*) and mostly dedicated to Haldi[73], the supreme god of the state. One of the most important of these celebrations was the coronation of the king and Sargon II's account of his eighth campaign against Urartu provides valuable information in this regard. He tells of a coronation that took place at the Haldi Temple in Mušašir:

'*the people of Urartu ... bring him, and among his son, as heir(?) of his throne, together with(?) gold and silver, all kinds of precious treasure for his palace they brought in before the god Haldi, in the city of Mušašir, and presented (as) his gifts. Heavy cattle, fat sheep without number, they sacrificed before him. For the whole of his city they spread a banquet. Before Haldi, his god they crowned him the royal crown and gave him kingly sceptre of Urartu*' (ARAB II 171).

The Topzawa (A 10-5 / UKN 264) and Mergeh Karavan (A 10-4) inscriptions, which date to the reign of the Urartian king Rusa I, also mention a visit to Mušašir (Urartian Ardini), where important celebrations were held to commemorate the king's visit to the city.

[71] Çilingiroğlu 1997: 155.
[72] Taffet 1999: 373.
[73] The only exception is the stele dedicated god Teišeba by Rusa I of A 10-7 / UKN 267.

Urartian kings also celebrated such deeds as the establishment of new vineyards[74] and orchards[75], or the planting of trees, sowing of fields, and harvesting of grapes with animal sacrifices.[76] This is shown by the Meher Kapısı inscription which states:

'*... Išpuni, son of Sarduri, and Minua, son of Išpuini established new vineyards. There have never been any such things done here [before]. Also for god Haldi established new orchards. ... When the vineyard harvested let three sheep be sacrificed to the god Haldi, and three sheep sacrificed to all the other gods'* (A 3-1 / UKN 27).

There were also other ceremonies that celebrated the building of new irrigation channels (A 12-8 / UKN 281) lakes, and cities, and many Urartian inscriptions are concerned with such activities. As the national god, Haldi was the god of fertility and it is therefore him who was usually associated such activities. From the reign of Minua onwards, many Urartian kings were actively involved in the building of new irrigation channels and water reservoirs to bring water to arid parts of their kingdom and to newly created cities (see II.1.2.3).

These ceremonies were performed in gratitude to the gods Haldi, Teišeba, Šivini and to other gods and goddesses to increase the fertility of the land. Such celebrations must have played an important role in strengthening the relationship between the king and his subjects, as it is highly likely that the king or royal family attended all these ceremonies.

Animal husbandry would have allowed both the settled and semi-nomadic communities who lived in the mountainous regions of eastern Anatolia, north-west Iran and Transcaucasia to respond quickly to any enemy attack by fleeing with their livestock into the mountains. A livelihood based on animal husbandry would therefore have protected their economic base from enemy attacks. For example, the Assyrian king Sargon II[77] mentions that after defeating the Urartian army, on his approach to Urartian cities (such as Aukanê [a district of Zikirtu], Ushkaia in Zaranda province, Ulhu in Sangibatu, the province of Aiadi[78] etc.) the residents of many of these cities abandoned them and fled into the mountains with their possessions. This would almost certainly have included their livestock. Similarly, almost three millennia later in 1838 Brant and Glascott mentioned that the communities who lived in the Bingöl (Chevli)

[74] For example, A 5-33 / UKN 65, A 9-11 / UKN 167, A 9-12 / UKN 172, A 12-8 / UKN 281
[75] A 5-33 / UKN 65, A 12-8 / UKN 281.
[76] For example, the Köşk inscription of Minua (A 5-33 / UKN 65).
[77] For the historical journey see ARAB II 139-178 and Thureau-Dangin 1912 and for the detailed analysis of Sargon II account see Wright 1943; Levine 1977a; Muscarella 1986; Zimansky 1990 and Kravitz 2003.
[78] ARAB II 151, 158, 161, 163 and 166.

plain were '*...attacked by a superior force* [and], *they fled to mountains, taking* [with] *them all the property they could carry away*'.[79]

II.2.5. Archaeological Evidence

By way of contrast, the excavators of Karmir-Blur and Yukarı Anzaf unearthed a large quantity of animal bones in the ruins of these citadels. This would appear to indicate that during the siege of these citadels, animals were brought inside the walls for protection, rather than being driven up into the mountains, and subsequently died in the fires that destroyed these sites.[80] According to Oktay Belli the inhabitants of the lower city of Yukarı Anzaf took refuge with their belongings inside the northern gate of the fortress during enemy attacks.[81] The animal bones were scattered over an extensive area, and the remains of 81 cattle and 452 sheep and goats were recovered. Similarly, at Karmir-Blur, Piotrovsky[82] argued that at the time of the siege the animals (cattle, horses, asses) were taken on to the timber roof of the north-western part of the citadel, and when this timber roof collapsed as a result of fire, they fell to the floor below. This seems likely, as the position of the animal bones strongly suggested that they had fallen from a height.[83]

The importance of animal husbandry is also illustrated by the extensive collections of animal bones that have been found in eastern Anatolia at sites such as Tilkitepe[84] and Sos Höyük[85], and at Urartian sites such as Bastam, Yukarı Anzaf[86], Toprakkale, Karmir-Blur, Armavir, Horom and Korucutepe.[87] In a heavily burned room at Karmir-Blur (Room 26) excavators discovered the burned bones of young calves and smaller animals[88], which have been interpreted as the remains of sacrifices that had been offered on the sacrificial table in Room 25.[89]

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[79] Brant and Glascott 1840: 370.
[80] Belli 1999a: 23-24.
[81] Belli 1999a: 23-24.
[82] Piotrovsky 1969: 155.
[83] Among identified animals in Room 25 where four horse skeletons with one of them with horse-trappings (Barnett and Watson 1952: 144).
[84] At the site of Tilkitepe (Korfmann 1982: 154) in the Van Plain, a site located in close proximity to Van Kalesi, excavators recovered domesticated bones of sheep and goats at Halaf (5200-4500 BC) period.
[85] At the site of Sos Höyük (Howell-Meurs 2001: 324), on the Erzurum Plain, the remains of domesticated sheep, goats, and cattle bones of Early Bronze Age date indicate that these three species were the most commonly reared livestock in the Erzurum Plain.
[86] Onar *et al.* 2008: 150-158.
[87] The Late Bronze and Early Iron Ages (1200-800 BC).
[88] Harutjunjan (1964: 185) states that 35,000 bones have been analysed by S. K. Dal, with most of the bones belonging to young sheep and goats.
[89] Harutjunjan 1964: 185; Barnett and Watson 1952: 144; Barnet 1959: 4; Piotrovsky 1969: 155.

Similar discoveries were unearthed at Bastam, but on a much larger scale. Here, thousands of animal bones and hundreds of clay *bullae*[90] were discovered in rows of rooms (MB2-1, OB5-6, and OB5-7).[91] The skulls and feet of the animals were missing, something that was also seen at Karmir-Blur and Toprakkale. As at Karmir-Blur, the majority of animal bones at Bastam were of sheep and goats. At Bastam sheep, wild and domesticated goats, cattle, gazelle, deer and small Asiatic wild asses, were among the identified specifies. Joachim Boessneck and Mostefa Kokabi[92] gave a total figure of 360,000 bones and suggested that during the siege of Bastam these animals were stored in the citadel, and subsequently died in the fire. However, Zimansky[93] suggested that among the bones at Bastam the find of *bullae* must have been attached either to baskets or documents and probably represented direct evidence for royal involvement at the site. He went on to argue that these 'bone rooms' were not used for meat storage. Rather, the discovery of bones and *bullae* together in the same context indicates the involvement of the monarch and had some form of ritual or ceremonial significance. However one may argue that bones might have been accumulated as a result of taxation and interpreted the existence of bullae as proof of taxation, since the majority of the bones recovered from the above sites belong to domesticated animals. The bullae from Ayanis west storage rooms were seen to indicate the commodities and goods that were sent to here either as a result of taxation or collection of goods from other settlements.

At the site of Kayalıdere, the excavators recovered a large quantity of animal bones, together with pottery, in one of the basement rooms at the edge of the cliff in the south-eastern part of the citadel. It has been suggested by Burney that this room, which measured 5.50 m by 11.50 m, was used for domestic purposes.[94] At the Karagündüz cemetery, among the various grave goods that were deposited with the burials, the vertebrae of lambs or young goats were found in bowls, and as hearths were also located next to every grave, the excavation team presumed that the sacrificed animals were then cooked on these hearths.[95] At the Ayanis temple, in front of the core-temple' west façade in a room at depth of 3.12 m, excavations revealed large quantities of animal bones which have been suggested that after sacrificial ceremonies some parts of the animals were brought into this room.[96]

[90]Zimansky 1979: 53; 1988: 107.
[91]Zimansky (1979: 54) notes that the number of clay *bullaea* found, (most of them are stamp or cylinder seal impression) totals 1400, which is the largest number so far found in the ancient Near East.
[92] Boessneck and Kokabi 1988: 257.
[93] Zimansky 1988: 107; 1979: 55.
[94] Burney 1966: 92.
[95] Sevin 1999: 162.
[96] Çilingiroğlu 2005: 33.

The discovery of animal bones at the sites of Karmir-Blur, Bastam, Korucutepe, Yukarı Anzaf, Horom and Tsovinar[97] show that a wide variety of domesticated and undomesticated species were consumed by the Urartians. The domesticated species include sheep (*Ovis aries*), goat (*Capra hircus /Capra cylindricornis*), horse (*Equus caballus /Equus caballus*), donkey (*Equus asinus*), cattle (*Bos Taurus*) humped ox (*Bos bubalus*), gazelle (*Gazella subguturosa*), and pig (*Sus domestica*) (see Table 8).[98] At Bastam and Horom also wild species such as red deer (*Cervus elaphus maral)*, aurochs *(Bos primigenius)*, wild sheep *(Ovis amon)*, wild goat *(Capra aegagrus)*, gazelle *(Gazella subgutturosa)*, wild Boar *(Sus scrofa)*, onager *(Equus bemionus onager)*, wolf *(Canis lupus)*, weasel *(Mustela nivalis)* and red fox *(Vulpes vulpes)* were identified (see Table 9).[99] The identified animal species from Urartian period sites are identical with species mentioned by Xenophon, who after two centuries of the disappearance of the Urartian kingdom passed through eastern Anatolia.[100]

Table 8. Domesticated species from Urartian period sites

Domesticated Species	**Bastam**	**Horom**	**Karmir-Blur**	**Yukarı Anzaf**	**Korucutepe***	**Karagündüz**	**Armavir**	**Sos Höyük**	**Büyüktepe Höyük**	**Yoncatepe**
Cattle *Bos Taurus*	++++	++++	++++	+++	++++	-	+++	++	**+++**	+
Water Buffalo *Bubalus bubalis*	+	+	-	-	-	-	-	-	-	-
Sheep *Ovis aries*	++++	++++	+++	++++	+++	+	+++	++	++++	+
Goat *Capra hircus /demestica*	++++	++++	+++	++++	+++	+	+++	++	+	-
Camel *Canelus spec*	+	-	-	-	+	-	+	-	-	-
Pig	+	++	+	-	+	-	+	+	+++	-

[97] Piotrovsky 1959: 149.
[98] Boessneck and von der Driech 1974: 110; Barnet and Watson 1952: 147; Piotrovsky 1969: 155; Bartnett and Watson 1952: 147; Boessneck and Kokabi 1988: 175-262, Hmayakyan 2002: 284 no.29; Obermaier 2006: 141 table 1.
[99] Obermaier 2006: 155-164; Boessneck and Kokabi 1988: 248-258; Barnett and Watson 1952: 147.
[100] *Anabasis* IV.5: 25-27.

Sus scrofa domesticus										
Horse *Equus caballus*	++	+++	++	-	++	-	+	+	++	-
Donkey *Equus asinus*	+	+	+	-	+	-	-	+	+	-
Dog *Canis Familiaris*	++	++	+	-	+	-	+	+	+	++
Cat *Felis catus*	+	-	-	-	-	-	-	-	-	-
Chicken *Gallus gallus demesticus*	-	+	-	-	+	-	+	+	+	-

+ = rare finds, ++ = occasional finds, +++ = common finds, ++++ = dominant species; * Korucutepe seed samples from layer dated 1200 BC to 1400 AD.

Further archaeological evidence for animal husbandry has been found at Hakkâri, a city in the south-eastern corner of Turkey.[101] Here a group of 13 stelae were found, (dated to middle of the second millennium BC) of which 11[102] depicted naked warriors' upper bodies with symbols of war such as daggers, spears, axes and also scenes of the hunting of goats, gazelle, and water buffalo (Figure 68). Also on the rock relief facade of an Urartian tomb at Eski Doğubeyazıt, there is the depiction of a wild goat above entrance to the tomb between two men (Figure 64).[103] A similar goat is also depicted on a small silver pectoral from Toprakkale, where a female figure is accompanied by a goat facing an enthroned deity between two sacred tree.[104] Furthermore on bronze votive plaques from Giyimli there were similar scenes of goats.[105] These symbols also show that the Van region had a diverse fauna.

[101] Sevin 2005: 44.
[102] The other two depicted females.
[103] Huff 1968: 58-86; Salvini 2006a: 175.
[104] Meyer 1955: 209.
[105] Merhav 1991e:176, Fig. 17, Kellner 1991d: 292-3, 293-6.

Table 9. Wild species from Urartian and Iron Age period sites

Wild Species	**Bastam**	**Horom**	**Karmir-Blur**	**Korucutepe***	**Sos Höyük**	**Büyüktepe Höyük**	**Armavir**	**Yoncatepe**
Cattle *Bos primigenius*	+	+	-	-	-	+	-	-
Wild sheep *Ovis orientalis/ ammon / gmelini*	+	+	-	+	-	+	+	-
Wild Goat *Capra aegagrus*	+	+	-	+	-	-	+	-
Deer *Cervus elaphus maral / Dama dama / Capreolus capreolus*	+	+	-	-	+	+	+	-
Gazelle *Gazella subgutturosa*	+	+	+	-	-	-	+	-
Wild boar *Sus scrofa*	+	+	+	-	-	-	-	-
Horse *Equus ferus caballus*	-	-	+	-	-	-	-	-
Onager *Equus hemionus / asinas*	+	+	+	-	+	+	-	-
Wolf *Canis lupus / familiaris palustris*	+	-	+	-	-	-	+	-
Fox *Vulpes vulpes*	+	+	-	-	+	-	+	+
Weasel *Mustela nivalis*	+	+	-	-	+	-	-	-
Lynx *Lynx lynx*	+	-	-	-	-	-	-	-
Hare *Lepus capensis / europeus*	+	-	-	-	-	-	+	-
Hedgehog *Erinaceus concolor / europeus*	+	-	-	-	-	-	+	-
Bird *Aves / Otis tarda / Falco tinnunculus / Anas strepera / Corvus corax*	+	-	-	-	+	+	+	-
Turtle *Testudo graeca ibera / Clemmys caspica*	+	-	-	-	-	-	+	-

Toad *Bufo viridis*	+	-	-	-	-	-	-	-
Beaver *Castor fiber*	-	-	-	-	+		+	-
Eurasian badger *Meles meles*	-	+	-	-	+	+	+	-
Marbled polecat *Vormela peregusna*	-	-	-	-	+	+	-	-

+ = Present; - = absent

* Korucutepe samples are dated to Early Iron Age (*c*.1200-800 BC)

II.2.6. Conclusion

It is no surprise to find out that, even today, in the highland areas of eastern Anatolia, north-west Iran and Transcaucasia most households in the countryside own the same species that were bred by Urartian farmers throughout the first millennium BC. Animal husbandry remains the predominant form of land use in the mountainous regions of the old Urartian territory where agricultural land is limited by the high mountains and harsh continental climate. Even with modern agricultural equipment, agricultural production from arable lands remains of secondary importance for most eastern Anatolian communities, where herding is still the mainstay. This is especially true in the Erzurum, Kars, Hakkâri, Ağrı, Bingöl and Bitlis provinces of Turkey[106], in the Aparan, Tsaghkahovit, Shirak and Lake Sevan regions of Armenia and on the high plateaus of the Lake Urmia basin (Map 2) – even in places where chemical fertilizers and modern farm machinery have been introduced. Most households in these regions own livestock. Sheep are the most common, followed by goats and cattle, with donkeys, horses and mules also raised. Perhaps the only significant change has been the number of poultry animals, such as chickens and turkeys, which is significantly higher today than it would have been during Urartian times. Although in archaeological contexts the numbers of pig bones are relatively low (as at Bastam and Karmir-Blur), pigs nevertheless formed part of the Urartian diet. In eastern Anatolia and north-west Iran the breeding of pigs is forbidden by Islam and therefore they are not found, with the exception of Armenia. Furthermore it is likely that fish, birds, and small wild animals formed part of the Urartian diet.

Before drawing an overall conclusion about the monarch's role in animal husbandry it should be remembered that, as is the case with arable agriculture, most of the currently

[106] Koday 2005.

available archaeological evidence has been recovered from sites dating to the time of Rusa (III) son of Argišti in the mid-7th century BC and the majority of our written evidence comes from the royal annals of Argišti I and Sarduri II, dating from the 8th century BC. The chronological disparity between the archaeological and textual evidence is but one obstacle to determining the Urartian king's involvement in animal-based production activities. It is clear from Urartian royal inscriptions that vast numbers of animals were brought into Urartian territory from neighbouring areas as booty, so we should expect to see that to a certain degree the monarch was involved in some aspects of animal husbandry and may also have owned his own herd. The existence of a royal flock may be indicated by the Kelishin inscription, in which it is mentioned that great numbers of animals were taken to Mušašir by king Išpuini to be sacrificed.

II.3. METALLURGY

II.3.1. Introduction

This chapter will focus on the role of metallurgy in the Urartian kingdom. Urartian and Assyrian textual evidence, ore deposits, and the archaeological evidence for metal workshops will be examined. The role that iron, bronze, silver and gold played in Urartian society will also be considered.

The archaeological excavation of Urartian sites have uncovered diverse metal artefacts in iron, copper, gold, silver and bronze that reveal the skills of Urartian metalworkers. It has been argued[1] that the success of the Urartian state militarily in the construction of new fortresses, water facilities and the opening up of new agricultural areas was due to the ease of access to the mining, smelting and manufacturing of iron and their skill in producing tools and weapons in this material. The discovery of numerous bronze artefacts at sites such as Toprakkale, Altıntepe, Çavuştepe, Karmir-Blur and Giyimli as well as discoveries from clandestine excavations of other sites have yielded important bronze artefacts that have led some scholars to conceive of Urartu as a major 'metalworking center'[2] in which the production of metal artefacts was closely associated with the state.[3]

There have also been arguments about the role of trade in regard to the metal artefacts manufactured by the Urartian state.[4] However, despite substantial archaeological evidence for metal artefacts and the discovery of metal production centres at Karmir-Blur, Armavir and Metsamor in Armenia, and the Mağara Tepe and Pürneşe iron mines in the Lake Van basin, as yet, no written documents relating to ore sources have been found, though there are cuneiform inscriptions of Urartu about receiving tribute in metal from the kingdom of Militia (A 5-5 line 18), Qumaha (A 9-3 IV 52-56) and Diauehi (A 8-2 lines 19-25). Therefore an evaluation of the rich ore deposits mentioned in eastern Anatolia, Urartian and Assyrian texts, and the relevant artefactual evidence seems to be necessary. This survey of the available literary and archaeological evidence will help us to understand how metallurgy contributed to the development of the Urartian state, as well as to the socio-economic life of highland communities more broadly.

[1] Belli 1987: 92; Çilingiroğlu 1997: 107; van Loon 1966: 80-84; Zimansky 1985: 97; Wartke 1991: 322-329.
[2] For example, Merhav 1991a; Seidl 1988: 169-175.
[3] For example, Tarhan 1986: 285-301; Belli 1991b: 44-49.
[4] van Loon 1966: 102-112, 1977: 229-231; Muscarella 1962: 317-329, 1992: 1-45; Herrmann 1966; Maxwell-Hyslop 1956: 150-167; Azarpay 1968: 54-55; Smith 1942; Barnett 1950: 39.

The surveys conducted by Oktay Belli in eastern Anatolia have identified numerous mine galleries, slag dumps and metal workshops close to sources of silver, copper, lead and iron ore; most of which are dated to the Urartian period by Belli either by surface remains or their close proximity to Urartian period settlements.[5] As a result of these surveys and metallurgical analysis of artefacts of the Urartian period there is a large corpus of data that enables us to re-evaluate the development of Urartian metallurgy. However, it should be pointed out that some of these mines were extensively used during the Byzantine and the Ottoman periods and therefore it is very difficult to attribute all of the mines reported by Belli to the Urartians, unless there is unequivocal archaeological remains to indicate otherwise (see II.3.2).

It is likely that the various principalities of the Lake Van basin formed a political organization in the early first millennium BC and successful large-scale mining requires a political organization. Judging by the amount of tribute received by the Assyrian kings it seems that this combination of political and industrial organisation had been achieved in the Lake Van basin under the auspices of the Urartian kingdom (see III.4.5). It can therefore be inferred that the extraction of ores from quarries, the transportation of the ores to metal workshops, and the fuel used for smelting were all organised and provided by the Urartian state and which has important implications for our understanding of the nature of the socio-economic conditions within the region at that time.

II.3.2. Written Sources for Ore Deposits of the Urartian Territory

It is known that the Assyrian kings Tiglath-Pileser I (1114-1076 BC)[6], Tukulti-Ninurta II (890-884 BC)[7] and Assur-Nasir-Pal (883-859 BC)[8] undertook military expeditions into the Lake Van basin and the Murat River valley and received tribute either in the form of metal or animals from those regions (see below). The most important written sources regarding metalworking in Urartu come from Sargon II's (721-705 BC) eighth military campaign against Rusa I, in the Lake Urmia basin, which was recorded in Assyrian on a tablet that is now exhibited in the Louvre (KAH II, no. 141) and called 'letter to the god Assur'. On this tablet, there is a detailed description of the numerous bronze, iron and silver artefacts that formed part of the booty taken from the Urzana palace and the Haldi temple following the

[5] Belli 1991a: 16-41; 2001b: 338-351.
[6] ARAB I 222, 223, 236.
[7] ARAB I 405.
[8] ARAB I 441, 447.

conquest of Mušašir[9] in 714 BC. From the Haldi temple alone Sargon II reportedly carried off well over 300.000 precious objects (see II.3.4.2).

However, despite these references to such large quantities of metal items, no Assyrian textual sources written prior to (12th to 9th centuries BC), or after, the formation of the Urartian state provide any direct information about ore deposits in eastern Anatolia or metalworking in the Urartian kingdom. The only references are to metal artefacts received either in tribute or as booty from certain regions.

It is likely that deposits of iron, copper, silver and zinc ore located in the south-west of the Lake Van region played a crucial role during the formation and expansion of the Urartian kingdom.[10] A survey of this region conducted by Belli revealed 92 smelting sites and slag heaps of various sizes.[11] Considering the limited arable agricultural areas in this region and the number of smelting sites and slag heaps, it seems likely that metallurgical activities were more important than agriculture and animal husbandry here.[12] Belli argued that the surface remains of the Mağara Tepe (59 km west of Van, close to Balaban) and the Pürneşe (130 km south of Van, close to Bahçesaray) iron mines were extensively used by the Urartians.[13]

Mined iron ore from Mağara Tepe was smelted in the immediate vicinity of the mine shafts, and fragments of bellows tips have been found around the modern settlement of Balaban.[14] An Urartian period settlement was located east of Mağara Tepe, from where only Urartian period pottery has been reported, indicating that it was probably used only by Urartian miners.[15]

As at Mağara Tepe, at Pürneşe iron ores were also smelted in close proximity to where it had been mined and remains of slag have been found west of Müküs stream.[16] Here tens of thousands of terracotta blowing pipes were found. Also at the Pürneşe iron mine, there was a small settlement nearby. In this case, located to the north-west of the Müküs stream, where Urartian and Achaemenid period pottery found on the surface indicates that after the fall of

[9]A buffer state and city between Urartu and Assyria identified with the modern village of Mudjesir in the Upper Valley of Greater Zap in northern Iraq (Boehmer 1973: 31-40). In the 9th century BC it appears that Mušašir had diplomatic relations with Assyria: a delegation (Grayson 1996: A.0.101.30) joined the celebrations in Kalhu (Nemrud) during the reign of Assyrian king Assur-Nasirpal II. However, it is best known for being a cult centre of the Urartian 'national' god Haldi and the place of Urartian coronations as well as of Sargon II's attack and his subsequent sacking of its enormous palace and temple storages (ARAB II 172-175).
[10] Wartke 1991: 323.
[11] Belli 1991a: 36.
[12] Belli 1991a: 37.
[13] Belli 1991a: 37-38; 2001a: 343-344.
[14] Belli 1991a: 37; 2001a: 342, Fig. 8.
[15] Belli 1991a: 37.
[16] Belli 2001a: 343, Figs. 9-10.

Urartu, the mine continued to be used during the Achaemenid period.[17] However, it should be noted that Charles Burney pointed out the difficulty in associating these surface remains with Urartian mining activity, and suggested that the mine may date to the medieval period instead.[18]

Iron, copper, silver and lead ore deposits at Bingöl, Elazığ, and Adıyaman on the Murat River valley basin must have been of great importance to the Urartian mining industry. The Ergani-Maden copper mine area is one of the most important mining regions in eastern Anatolia and it has been suggested that it was very active during the Urartian period.[19] The Palu iron ore source in the Murat River valley is also another important mining area within the Elazığ Plain. Belli[20] and K.R. Maxwell-Hyslop[21] suggested that the rich resources of copper and iron in the Elazığ region (Ergani-Maden, and Palu) and in eastern Anatolia may have been one of the causes of conflict between the Urartian and Assyrian kingdoms. The Elazığ region came under the control of the Urartian state during the reign of king Minua and is called 'the land of Šebeteriā' in the Palu inscription (A 5-5 / UKN 39). According to the Palu inscription (Figure 55), Minua took tribute from an unnamed king of Militia (A 5-5 line 18). Sarduri II (A 9-4 /UKN 156 and 158) states that in return for the tribute of silver, gold and various goods he spared the life of the Militia king Hilaruada.[22] Sarduri II also took tribute from Kuštašpili, king of Qumaha[23] (Assyrian: Kummuh and Classical: Kommegene) (see III.4.5).[24]

Judging by the amount of tribute received from the Murat River valley recorded in these texts it is reasonable to assume that the ore deposits of the Ergani-Maden region were being exploited by Militia and Qumaha at this time. It is also likely that after the annexation of this region by the Urartians the regions' rich ore deposits were exploited by them and that a significant portion of the ore required for Urartu's metal production came from this region.[25] Interestingly, Belli reported ancient mine shafts and slag heaps in the area of Kiği-

[17] Belli 1991a: 38.
[18] Burney 1996: 6.
[19] Belli 1991a; 2001a.
[20] Belli 1991a: 16; 2001a.
[21] Maxwell-Hyslop 1974: 150.
[22] van Loon 1974: 189-190.
[23] Qumaha/Kummuh is identified with the classical Kommag(ene) and was located in the modern province of Adıyaman (Hawkins 1980-1983: 338).
[24] A 9-3 IV lines 52-56 / UKN 155 E.
[25] There are some important Urartian period settlements in the region such as Harput, Palu (for the Urartian city of Palua and its possible identification with modern Palu see; Kessler 1995: 64-65) [for Šebetariā see; Diakonoff and Kashkai 1981: 80] Mazgirt, Haroğlu and Yıldıztepe.There are also smaller settlements such as Habibuşağı (İzolu/Kömürhan), Baskil/Kaleköy, and Maltepe on the eastern shore of the Euphrates River (Köroğlu 1996: 14-17).

Keban, Murat Dağı (Malatya), Dojik Dağı (Tunceli)[26] that would appear to confirm the importance of these regions for Urartian metal industry.

There are also references to the Uruadri and Nairi principalities of the Lake Van basin and the Murat River valley in Assyrian written sources and it is known that one of the main reasons for Assyrian military expeditions in these regions was to acquire metals.[27] For example, Tiglath-Pileser I is known to have received: 180 vessels of bronze, five bowls of copper, together with gold and silver[28] and, in the third year of his reign Tiglath-Pileser I (1111 BC) mentions the capture of booty in a battle against Nairi in the Upper Murat River valley: 120 armoured chariots (ARAB I 236). Furthermore on another occasion 60 vessels of bronze, bowls of copper, great cauldrons of copper (ARAB I 223) were taken from Kutmuhu.[29] Tukulti-Ninurta II[30] and Assur-Nasir-Pal[31] also carried out successful military expeditions against Nairi into the Lake Van basin and received tribute in the form of various metal artefacts.

Although there are some rich sources of iron and copper ore in areas of Erzincan, Erzurum, Artvin-Kağızman and Divriği, the real importance of north-east Anatolia for Urartian metallurgy is the region's rich silver ore deposits. The principal silver ore sources of eastern Anatolia are located in Gümüşhane-Bayburt-Ispir[32], Kiği-Keban-Malatya-Kahta, and Çatak-Hakkâri in the southern part of the Lake Van basin.[33] Judging by the amount of tribute received by Argišti I in the middle of the 8th century BC, it seems that the silver mines of north-east of Anatolia were already operational when Argišti I annexed this region to Urartian territory. It is likely that after its conquest, the silver ore mines of north-eastern Anatolia continued to be exploited by the Urartians. In his military expedition to south-eastern Anatolia, the Urartian king Sarduri II is known to have received gold and silver from Militia and Qumaha (see III.4.2 and III.4.5), which indicates that the ore deposits in this region were active before the Urartians arrived there.

The Urartian kings Minua and Argišti I led successful military campaigns into north-eastern Anatolia, which were directed against the kingdom of Diauehi. This kingdom was

[26] Belli 1991a: 20; 2001b: 340.
[27] See for detailed discussion of iron ore deposits of Neo-Assyria and the relevant textual evidence of Anatolia Mxwell-Hyslop (1974: 139-154), iron working technology Curtis *et al*. (1979: 369-390) and detailed surveys of agricultural tools made of iron in Assyria Curtis (1999: 249-258).
[28] Yoncalı-Malazgirt inscription in the Upper River Valley of Murat (ARAB I 222).
[29] Kutmuhu/Katmuhi located west and north-west of Cizre and east of Kasiyari Dağı (Postgate 1976-80: 487).
[30] The Assyrian king Tukulti-Ninurta II received copper, iron, lead as well as horses and mules as tribute from Nairi (ARAB I 405).
[31] ARAB I 447 and 441.
[32] Belli 1991a: 17-19, 25-25, 36, map 2; 2001a: 341.
[33] Belli 1991a: 17.

then obligated to pay an unknown quantity of silver and gold as tribute to Minua (A 5-3 / UKN 36). Minua's successor, Argišti I, brought Diauehi under the direct control of the Urartian state, and in the Surp Sahak Kilisesi inscription (A 8-2 / UKN 128 B), he stated that in return for tribute of various metals and livestock he spared the life of the Diauehi king Utupuršini (See III.4.5).

The scale of tribute imposed on the king of Diauehi implies that this region had rich deposits of silver, gold and copper ore, which were being actively exploited at this time. It is likely that one of the main driving forces behind these military expeditions was the acquisition of raw materials. Belli[34] reports that his survey of the region uncovered mine shafts, smelting sites, and slag heaps in the Kağızman area, where rich deposits of silver ore are located.

Although it has been proven that there are deposits of iron, copper, silver and zinc in eastern Anatolia, only two deposits of tin are known to exist in the whole Urartian territory. Tin was essential for alloying with copper to make bronze[35], but the origin of the tin used by Urartian smiths is hard to establish in the absence of written and archaeological evidence.[36] At Tell al Rimah in Iraq, excavations unearthed an archive containing an interesting loan tablet referring to Nairi and dated to the 13th century BC (the reign of Assyrian king Salmaneser I, 1280-1261 BC).[37] The tablet (TR 3019) mentions that 50 *mina* of tin was borrowed from a Nairian merchant.[38] The tablet does not mention the source of the tin and there is no indication that it had been mined in Nairi but it does indicate that tin, which is presumed to have been scarce in the ancient world, was available in considerable quantities in Urartu.

[34] Belli 1991a: 25.
[35] Muhly 1985: 275-291.
[36] Most of the evidence about tin sources derives from early second millennium BC cuneiform tablets from Kanesh/Kültepe levels II and Ib archive of Assyrian Colony Trade period. These tablets reveal the highly complex commercial network of Assyrian merchants. Assyrian merchants exporting tin and textile into Anatolia and in return imported gold, silver, copper and other precious metals (Larsen 1976; Veenhof 1972). However there have been intensive researches into possible tin sources in Anatolia recently. The identification of Early Bronze Age tin mining at Kestel, Göltepe (Yener *et al*. 1989: 200-203; Yener and Vandiver 1993: 207-238; Özbal 2009: 157-163; Lehner *et al*. 2009: 165-174) and Hisarcık (Yalçın and Özbal 2009:117-122) in central Anatolia, not convince everyone (Hall and Steadman 1991; Muhly 1993; Pernicka *et al*. 1992). Muhly (1993) and Pernicka (*et al*. 1992) suggest the probability of gold and silver production at Kestel. However recently Özbal (2009: 157-163) and Lehner *et al*. (2009: 165-174) published new archaeometallurgical studies from Göltepe where cassiterite from the Kestel mine was smelted, indicating that tin mining was more likely to have taken place.
[37] Wiseman 1968: 183, Pl. LXII.
[38] Wiseman 1968: 183.

The only known tin deposits in Urartu are located in Paleoaraks in Armenia, and on Mount Sahand[39] (Uauš), north of Lake Urmia in Iran. The discovery of slag from cassiterite workings at Metsamor[40] indicates that tin was being smelted here. In its nature state tin occurs in oxide minerals either as cassiterite or tin-stone but not in metallic form and also, though it is less common, it can be combined with sulphides of copper and iron.[41] However cassiterite ore has been the most important sources of tin throughout the ancient Near East.

It has been suggested that Metsamor derived its tin ore from Paleoaraks, and considering the relative proximity of Mount Sahand to the Ararat Plain where Metsamor is located, it is reasonable to assume that some tin might have come to Metsamor from here too. However, when considering the vast quantity of bronze artefacts recovered from Urartian sites such as Toprakkale, Ayanis, Karmir-Blur, Giyimli and Yukarı Anzaf, as well as Sargon II's account of the Mušašir palace and Haldi temple, it is unlikely that Urartu obtained all its needs from these two deposits and the workshop of Metsamor alone.

Metallurgical analysis of bronze artefacts from the sites that have been associated with the royal palace such as Toprakkale, Patnos, Altıntepe[42], Ayanis[43] and Çavuştepe[44] has revealed that Urartian smiths used high percentages of tin in the production of bronze artefacts. For example, at Çavuştepe, the percentage used in these bronzes was between 7.08% to 10.38[45], whilst at Ayanis, shields and a bronze lion's head have a tin composition of between 6% and 10.[46] At Patnos, a vessel handle and vessel body had makeup of between 4.0% and 5.9% tin[47], the Altıntepe bronze furniture fittings and horse-bit between 8.5% to 9.4% and at Toprakkale, the wall pegs, cauldron attachments and vessels handle contained between 7.1% to 8.6% tin.[48]

On the other hand, however, metallurgical analysis of bronze artefacts from the Bingöl Burmageçit tomb[49], a site located in the Murat River Valley and not associated with state itself, revealed a very low amount of tin, between 1.12% and 2.93%. Although one sample might not be enough to draw a far-reaching conclusion about the use of tin in Urartian society, it is clear that at least the state dependent craftsmen had a ready supply of this rare

[39] Van Loon 1966: 85.
[40] Mkrtiachan 1967: 76.
[41] Moorey 1994: 297.
[42] Hughes *et al*. 1981.
[43] Reindell and Reiderer 2003; Ingo *et al*. 2010.
[44] Başaran 1989.
[45] Başaran 1989: 447.
[46] Reindell and Reiderer 2003: 205; Ingo *et al*. 2010:793, table 1.
[47] Hughes *et al*. 1981: 142.
[48] Hughes *et al*. 1981:142.
[49] Çukur and Kunç 1989: 227, sample 1 to 7 and table 3.

metal for the manufacture of bronze artefacts and the relatively low use of tin in the Burmageçit tomb suggests that ordinary people in Urartian society did not have access large quantities of it. Moreover there are large numbers of Urartian belts in existence from burial contexts, almost from all Urartian territory (see II.3.4.2), and based on the above evidence further analyses can be done on these belts in order to see the use of tin in wider context and more importantly to see if there is a difference between state and non-state craftsmen supply of this rare metal for the manufacture of bronze artefacts.

There might have been commercial ties which allowed the Urartians to obtain such quantities of tin for bronze production. It is likely that the tin was coming from eastern Iran or Afghanistan, where deposits of it were exploited throughout the second and first millennia BC[50] - passing through the south of Lake Urmia and into Urartu. It should also be noted that tin is absent from Sargon II's booty list from the Mušašir's palace and Haldi temple, where large quantities of silver, gold and copper are mentioned. Interestingly, the lists does contain numerous bronze artefacts which would have required large amounts of tin to make, as revealed by the analyses undertaken on Urartian bronze artefacts. But pure tin was evidently not being held in these repositories when they were raided.

II.3.3. Metal workshops

Archaeological evidence for metal workshops of the Urartian period comes from Karmir-Blur[51], Armavir[52], Metsamor[53] and Çavuştepe.[54] The evidence from Çavuştepe was unearthed to the north-west of Haldi temple in the Upper citadel. Here six small furnaces of various size (between 20 and 30 cm wide and 20 cm deep) and copper and bronze ingots of various shapes and sizes were found. The discovery of the Çavuştepe metal installation within the citadel and next to the temple complex is very important for understanding of Urartian metal production when considering finds of numerous bronze artefacts from temple complexes. Although this workshop was considered to be a later installation, dated to the first half of the first millennium BC[55], the excavation reports appears to suggest otherwise. The furnaces' ventilation channels ran under the Urartian period floor in a northerly direction about 20 cm deep and the similarities between ingot bars found here and in Room 37 at

[50]Belli 1991a: 24; Moorey 1994: 300-301; Muhly 1977: 73-82; 1985: 281-285; Nezafati *et al*. 2009: 223-236.
[51] Piotrovsky 1969: 139; Barnett and Watson 1952: 134.
[52] Martirosyan 1974: 95-98, Fig. 15.
[53] Mkrtiachan 1967: 76-78; Khanzayan *et al*. 1973: 195; McConchie 2004: 125-126, table 32.
[54] Erzen 1982: 156-159; Başaran 1989: 443-448, Figs. 1-8.
[55] Başaran 1989: 446.

Karmir-Blur, indicate an Urartian date.[56] The high content of tin in the bronze ingots is also consistent with the result of other sites.

Outside the Karmir-Blur and Armavir citadels, archaeological excavation has revealed the metal smiths' workshops in which artefacts were manufactured from bronze ingots of irregular shape.[57] For example, excavations on the western citadel at Armavir revealed a substantial workshop with 14 rooms dubbed by the excavators the 'House of the Metalsmith'.[58] The discovery of bloom iron, slag and smelting furnaces at Armavir suggests that metallurgical activities from all stages of the process of making and working iron were carried out in this workshop. It has been suggested that the iron ore used here came from Kagyzvan or Kulpskih, which are located about 35 km west of Armavir.[59]

Further archaeological evidence for metal workshops has been found at the site of Metsamor. The Urartian period at Metsamor is represented by metallurgical installations, debris and other related workshop activity as well as in the nearby cemetery.[60] Copper ore came from the nearby mines at Kagyzvan and cassiterite from Paleoaraks, where gold, silver and tin deposits are also known to exist.[61] Emma V. Khanzadyan and her colleagues have reported that at Metsamor they recovered 'cassiterite in all cultural layers'[62], which indicates that primary metal production here concentrated on the manufacture of bronze objects. Analysis of the slag at Metsamor has shown it contains high percentages of tin and copper.[63]

Archaeological excavations at Metsamor also revealed that different parts of the site were given over to different stages of metal production. For instance, flux-making took place on the northern part of the site, whilst abundant amounts of slag, nozzles, briquettes of flux and other artefacts together with its close proximity to a water structure, indicate that the eastern part had been a foundry area.[64] Also found were 24 smelting furnaces, three casting moulds, two drops of gold, gold nuggets, six iron and 73 copper slag pieces, one burnt piece

[56] Barnett 1959: 16.
[57] Piotrovsky 1969: 139; Martirosyan 1974: 149-157.
[58] Martirosyan 1974: 96.
[59] Martirosyan 1974: 149.
[60] At the Metsamor cemetery, in Grave 4 a bronze belt with depictions of bulls, lions, chariots, riders, horses, winged deities and rosettes (Khanzayan *et al*. 1973: 181, Fig. 17), as well as snake-head finial bracelets, fibulas, rings and a dagger with some other iron artefacts (knife, sickle, knife fragment) were unearthed (Khanzayan *et al*. 1973: 193-198).
[61] Mkrtiachan 1967: 76.
[62] Khanzayan *et al.* 1973: 195.
[63] Mkrtiachan 1967: 76.
[64] McConchie 2004: 125; Mkrtiachan 1967: 77.

of chalcopyritic ore, three samples of scoriae and slag from bronze-making, and six fragments of ventilating pottery.[65]

Matasha McConchie has argued that the large-scale metallurgical activities that were evidently taking place at Metsamor could perhaps represent state-level production citing standardized four bronze casting moulds from the foundry area.[66] Likewise, Barnett[67] has suggested that Metsamor was under the control of Armavir (Argistiḫinili), an Urartian centre in Ararat valley. Although there is no epigraphic evidence from Metsamor's Urartian occupation levels to support the above assumption, there are the pottery remains of jars, basins and vessels with short bi-conical bodies from the foundry layer that resembles other Urartian sites in Ararat valley (Armavir, Arinberd and Karmir-Blur).[68] It certain that after the burnt level of Metsamor, the site was reconstructed in the 8th century BC, but besides a similar pottery tradition to the Ararat Plain, there is no strong evidence for the Urartian period. Considering the construction of Argistiḫinili (Armavir) and Erebuni (Arinberd) by Argišti I in the Ararat Valley for administrative and military purposes after the conquest of this region and the poor level of Metsamor's Urartian occupation, it might be possible that the site had been reconstructed by the local population, who had the knowledge of metallurgy rather than directly by Urartian state.

The Early Iron Age level, pre-Urartian period, at the site also had elaborate large-scale metallurgical installations as well as workshops, associated cultic and monumental architecture[69], which indicate that before the arrival of the Urartian into Araxes valley there was a highly organised polity in the region. The pre-Urartian period in the Metsamor metal industry without the aid and control of a political formation would have not been accomplished. Urartian inscription mention the Etiuni/Etiuḫi[70] as the largest political formation in the Ararat Plain in the 9th century BC.[71] Therefore it is possible that the foundry layer may have been founded by the descendents of the Etiuni kingdom or a local ruler. The extraction of ore from quarries, its transportation to workshops, and the organization and smooth functioning of these large-scale workshops would have been hard to accomplish without the aid and control of local ruler or the Urartian State. However, considering the

[65] McConchie 2004: 245, table 32.
[66] McConchie 2004: 125.
[67] Barnett 1982: 346.
[68] Khanzadian *et al*. 1973: 195.
[69] Khanzadian *et al*. 1973: 195.
[70] The land of Etiuni was considered to cover vast areas from Sarıkamış as far as to the Lake Sevan basin of Armenian highland (Diakonoff and Kashkai 1981: 35; Salvini 2002a: 38, Fig. 1).
[71] For example A 3-4 Ro, A 5-2A-F, A 8-3 II, A 8-3 V and A 9-3 I.

close proximity of Armavir to Metsamor and the large-scale metallurgical installations as well as the workshops of Armavir, it might possible that Armavir was involved in the reconstruction or at least might have provided some of it raw materials such as copper, tin, iron and gold.

It is worth mentioning the lack of metal workshops at sites that are considered to have been administrative, economic and military centres (e.g. Bastam, Ayanis, Altıntepe, Arinberd, and Toprakkale) but with the exceptions of Karmir-Blur, Çavuştepe, Metsamor and Armavir. In the absence of major metal workshops at archaeologically excavated sites with the exception of Metsamor, Karmir-Blur and Armavir, it seems that these facilities were located away from urban areas, possibly close to ore deposits where charcoal or timber could be obtained much more easily and slag or other refuse waste could be accommodated. For example, the mining facilities of Mağara Tepe and Pürneşe located south of the Lake Van basin were close to mines. The evidence from both these sites indicates that the mining of ore and its subsequent smelting were carried out at facilities close to the actual mine itself. However there is no evidence that the manufacture of weapons, tools and the like were carried out on at these facilities. On the other hand evidence from Armavir and Metsamor indicate that both these workshops received ore from Kagyzvan or the Kulpskih rich deposit located 30-40 km south-west of Armavir.[72] The evidence from sites in Armenia seems to indicate that mining of ore and its subsequent smelting were carried out at facilities close to the mines and from there transported to workshops for manufacturing of weapons for military use, agricultural tools, building materials and as jewellery. It is evident from the material (e.g. slag, crucibles and blow pipes) found at the sites of Mağara Tepe and Pürneşe south of the Lake Van basin and Metsamor and Armavir in Armenia that these metal workshops provided Urartu with it needs. Apart from government-controlled mines and manufacturing centres, there might have been small-scale iron and bronze production workshops which catered for the needs of rural highland settlements and which were probably operated independently by the tribes.

II.3.4.The Role of Metallurgy in Urartu

There is a clear distinction between the use of iron, bronze, gold and silver in Urartian society. Iron was usually used for weapons and agricultural objects such as ploughshares, sickle-blades, hoes, and knives, and is found not only in residential areas and citadels, but

[72] Martirosyan 1974: 149.

also in burials. Bronze is generally found in temple complexes and was used for military equipment (e.g. helmets, shields, swords, quivers, arrowheads, daggers and horse harnesses), votives and everyday utensils such as cooking cauldrons. Gold and silver were used for jewellery such as earrings, bracelets, in votive plaques and in the decorations of various objects.

II.3.4.1. Iron

Excavations at Early Iron Age (pre-Urartian period) cemeteries in the Lake Van basin, such as Karagündüz[73], Dilkaya[74] and Ernis-Evditepe[75] (11th to 10th centuries BC), have revealed hundreds of iron and bronze artefacts including bracelets, necklaces, beads, tools and weapons. The large number of iron artefacts (e.g. mace heads, iron hatchets, daggers, needles, bracelets and various other objects) found at the Ernis-Evditepe and Karagündüz cemeteries indicate that towards the end of the Early Iron Age in the Lake Van basin, iron weapons and ornaments were already being used as grave goods.

In contrast to the Early Iron Age sites of the Lake Van basin, the major sites of the Early Iron Age in Armenia, (e.g. Horom and Metsamor), and the site of Sos Höyük[76] in eastern Anatolia have not yielded any iron objects (Map 3). Although at Horom[77] in tombs 1 and 2, and at Metsamor[78] burials 1 and 2, there were various bronze finds (discs, buttons, hair claps, bracelets, rings, daggers and needles), iron objects appear to be absent from both sites. On the other hand, at the sites of the Early Iron Age on the Elazığ Plain (e.g. Korucutepe phase K[79] and Norşuntepe[80] northern and southern section of the terrace building), iron objects such as knife handles, knives, fibulae, ingots and arrowheads were discovered. However, the majority metal finds from Korucutepe and Norşuntepe were made of bronze. Clearly, there were marked differences in metal usage at sites located in the Lake Van basin and those in Armenia and north-east Anatolia. For example, iron objects from Elazığ Plain sites are recovered from actual sites rather than cemeteries, as in the case with Lake Van basin. These finds indicate that iron was used for utilitarian and ornamental objects, although bronze objects appear to be dominant during the Early Iron Age in the Elazığ Plain and the

[73] Sevin and Kavaklı 1996.
[74] Çilingiroğlu 1991: 29-38.
[75] Erzen 1963: 542; Belli and Konyar 2003: 35-55.
[76] Sagona *et al*. 1995: 193-218; Sagona *et al*. 1996: 27-52; Sagona and Erkmen 1998: 31-64.
[77] Badaljan *et al*. 1993: 12, Fig. 9.
[78] Khanzadian *et al*. 1973: 203, Figs. 31, 32, 33.
[79] van Loon 1980: 178.
[80] Hauptmann 1972: 95.

Armenian highlands. Furthermore, it is interesting to note the absence of iron in Early Iron Age sites of Armenia and north-east Anatolia and thus it appears that iron was not widely available in these regions during this period, which stands in contrast to the Lake Van basin.[81]

However, excavations at Urartian sites such as Karmir-Blur, Armavir and Toprakkale citadels (Map 4) have also revealed a large quantity of iron artefacts including weapons such as daggers, arrowheads, spearheads and swords; agricultural tools like pitchforks; ploughshares, sickles, hoes, axes and knives; and also masonry tools such as chisels, spatulas, awls, flats bars, nails, hooks, and heavy pickaxes and hammers.[82] Excavations conducted by a German expedition between 1898 and 1899 at Toprakkale produced over 1,600 iron objects. At the site of Karmir-Blur in Rooms 10, 13, 15, 17, 18 and 20, there were numerous iron artefacts such as shovels, knives, daggers, swords, sickles, hoes, chain fragments, bridles, and door latches.[83] Similarly, at Armavir among the artefacts that were found in the so-called 'House of the Metalsmith' there were numerous agricultural tools and weapons made of iron.[84] This led Arutjun A. Martirosyan[85] to suggests that the various tools, weapons and objects produced in this workshop not only provided the needs of the citadel of Armavir but also that of the entire town. There is a close parallel between the major sites located in the fertile plains and valleys (Toprakkale, Karmir-Blur, Ayanis and Armavir), and the recovery of agricultural tools, which indicates that the central government was involved in the organisation and economic management of resources.

From the Urartian period sites such as Metsamor and Horom in Armenia a few iron artefacts have come to light. At Horom, several iron nodules, a large piece of slag, a blade fragment, and a bracelet or ingot were found in a narrow room.[86] However, it is interesting to note that despite claims that the foundry at Metsamor not only dealt with bronze but also with

[81]The importance of iron working during the Late Bronze Age in Anatolia is illustrated by a letter (KBo I: 14) of the Hittite king Hattušili III (1289–1265 BC) addressed to his Assyrian counterpart Shalmaneser I (1273-1244 BC). The letter is as follow: '*As for the good iron about which you wrote to me, there is no good iron in my storehouse in Kizzuwatna. The iron (ore) is (of) too low (a grade) for smelting. I have given orders and they are (now) smelting good iron (ore), but up until now they have not finished (the iron). When they have finished, I shall send (it) to you. Meanwhile I am sending to you a blade of iron for a dagger*' (Muhly *et al*. 1985: 79). The letter concerns a royal gift exchange, and indicates the high status of a single iron dagger blade. Furthermore the letter indicates the control over the iron ore and its distribution, which shows the control of palace orientated economies of the Late Bronze Age (Moorey 1994: 289). Meanwhile in Assyria, Shalmaneser I also listed iron among the materials placed as foundation deposits during the rebuilding of Ehursagkurkura at Assur, which show the value given to iron in the Late Bronze Age (ARAB I 120).

[82] Barnett (1954: 10, Fig. 14) reports three small metallurgical crucibles in the form of clay kidney-shaped dishes from Toprakkale.

[83] Barnett and Watson 1952: 132-147.

[84] Martirosyan 1974: 149, Figs. 86, 87, 88, 89.

[85] Martirosyan 1974: 149.

[86] Badaljan *et al*. 1993: 18.

iron production, there is little evidence for the latter. Only three iron objects are known to have been published from Metsamor: a knife, a fragment of knife, and a sickle.[87] Interestingly, published bronze objects from the burials (4 and 7) at Metsamor are either in the form of utilitarian objects or jewellery (fibulae, eyelets, spirals, snake-head finials bracelets and ornamentals pins).

In the north-west Iran, at Hasanlu, more than 2000 iron objects were found, with the majority of these being discovered in the destruction level (*c*. 800 BC).[88] Vincent C. Pigott has suggested that during the 9th century BC at Hasanlu iron was a prestigious metal, which was used by local élites as a means of displaying their status.[89] Similarly, at Ayanis and Yukarı Anzaf, numerous iron artefacts including pitchforks, knives, a chisel and numerous arrowheads were found. At Yukarı Anzaf, in the eastern courtyard of the Haldi temple, excavation unearthed about 13 kilogrammes of metal, which included bronze objects such as vessels, helmets, shields, horse harnesses, arrowheads and spears.[90]

In the north-east of Anatolia, at Altıntepe, in the north-western part of the Urartian territory, numerous objects of iron, bronze weapons, silver and gold artefacts were excavated from three tombs. Although in tomb III there were several iron objects including arrowheads, two mace heads, a shield and fragments from various iron weapons[91], the majority of tools, weapons and ornaments were made of bronze. By contrast, excavation at the Urartian cemetery of Iğdır[92] recovered numerous iron objects mainly in the form of arrowheads, knives, daggers, spearheads, mace heads and horse-bits.[93] At Patnos/Dedeli burial, almost all the iron objects were tools for agriculture such as ploughs, sickles and pitchforks, whereas bronze was used in jewellery and the like of vessels and utensils. The finds at Patnos/Dedeli suggest that the burial belonged to a farmer (or farmers). Interestingly, there are no bronze weapons from Iğdır cemetery. Furthermore, the finds from graves at Kalecik/Van[94], Yoncatepe[95], Van/Altıntepe[96] and Patnos/Dedeli[97] in the Lake Van basin also show similarities to the Iğdır cemetery in that there are many iron objects.

[87] Khanzadian *et al* 1973, Figs. 66, 80-81.
[88] Pigott 1989: 67.
[89] Pigott 1989: 77.
[90] Belli 1999a: 27-28, Pl. 31-34; Belli and Yalçın 1993: 55.
[91] Özgüç 1969: 68-69.
[92] Barnett pointed out similarities between Iğdır cemetery materials and from Altıntepe and dates the former to about 650 BC (Barnett 1963: 161, no. 3).
[93] Barnett 1963: 153-198.
[94] Çavuşoğlu *et al*. 2009: 275.
[95] Belli and Konyar 2001: 201-204 Figs. 34, 35 and 36.
[96] Sevin and Kavaklı 1996.
[97] Öğün 1978b: 663-668, Pl. 38-43.

However, the discovery of numerous bronze tools and weapons, jewellery, and iron artefacts from the Altıntepe burials also suggests that these burials were used by members of the Urartian élite. In fact, the architectural remains of Altıntepe (storage rooms, and an open air shrine along with a temple) indicate that it was an administrative, military and economic centre for the region. In contrast, artefacts found in the Iğdır and Kalecik/Van cemeteries suggest that these sites might have been used by soldiers or the lower class of Urartian society. Therefore, it is likely that Iğdır was a military post perhaps controlling the eastern part of the Araxes Valley, and likewise Kalecik/Van may also have been used as a garrison by Urartian soldiers. It seems that with the establishment of the Urartian kingdom tools and weapons made of iron became more widely available not just to élites or royals but also to farmers and ordinary people throughout the highlands of eastern Anatolia and Transcaucasia.

The finding of Urartian type willow-leaf arrowheads made of iron from almost all excavated sites (e.g. Ayanis, Van Kalesi, Toprakkale, Karmir-Blur, Arinberd, Çavuştepe and Yukarı Anzaf) indicates the widespread use of iron by the Urartian state. The standardisation of arrowheads and the large scale production of iron, also suggests the existence of skilled blacksmiths and the state's control of iron production.

However, despite its important role in the development of the Urartian state, there is only one known reference to iron in Urartian inscriptions: that of Sarduri II in Hazine Kapısı, which states that '*... a seal of iron have I made ...*' (*KIŠIB AN.BAR za-du-bi DUB-te*).[98] Ralf-Bernhard Wartke[99] argued that the part played by iron in Urartian social life was so self-evident that no specific mention needed to be made and that iron was not a prestigious commodity. Only iron objects of cultic highly artistic value were considered worth mentioning.

All known agricultural tools from Urartian period sites such as ploughshares, sickle-blades, hoes and knives were made of iron[100], which mirrors the situation in contemporary Assyria.[101] It is likely that there was a great deal of iron in circulation and that it was not just available to the upper echelons of Urartian society, but also to ordinary peasants.[102] McConchie[103] argued that '*...iron was embraced as a cultural symbol by the increasingly*

[98] A 9-3 III line 11.
[99] Wartke 1991: 323.
[100] For iron agricultural tools from Toprakkale see Wartke 1990 Pl. for hoes XXVIIIa-b, axes XXIXa-c, hammer and spade, XXXa-b, pitchforks XXXIa-b, ploughshares XXXIIa-b, knives XXXIIIa-d.
[101] Curtis 1999:257.
[102] McConchie (2004: 37) suggested that the specialisation of iron production during the Urartian period was limited to a group of family or smiths. He argued that in north-east Anatolia there were small-scale iron production centres and the production of it was influenced by a seasonal division of labour.
[103] McConchie 2004: 178.

powerful and expanding Urartu' and that it '*...rapidly pervaded Urartian society and local economies*'. Archaeological finds from Urartian period sites indicate that iron was widely used for weapons (spears, daggers, arrow-heads, and swords), agricultural tools and also for building tools. In the booty list of Sargon II taken from Mušašir there are a few references to iron objects (an oven, shovel, lamp poker and scraper)[104], which suggests that either Assyrian scribes only documented iron objects of special artistic and cultic value or iron was hardly preferred as a material of luxury goods. Interestingly there is hardly any mention of iron as booty in contemporary Assyrian inscriptions.

Piaskowski and Wartke have analysed iron objects from the Toprakkale assemblage and identified three distinct types of iron (see Table 10).[105] They categorised iron objects as objects with low phosphorus and non-uniform carburisation (Type A), as objects with very low phosphorus and no carburisation (Type B), and objects with high phosphorus and non-uniform carburisation (Type C). Type C is harder than Types A and B.[106] Further analysis of an iron arrow-head from Toprakkale showed homogeneous carburisation.[107] Although phosphorus may be present in iron ores and may remain in iron after the reduction of the ore, the carburisation process involves the finished object in very close and sustained contact with charcoal so that the surface layers of the object would absorb carbon.[108] Metallurgical analyses from Toprakkale show that some objects contained high phosphorus and carbon levels, while, others were low in carbon. Also some other iron objects have a homogenous content ranging from low to high carbon.

Table 10. Toprakkale iron analyses and their content in carbon and phosphorus

(Piaskowski and Wartke 1989: 89-113)

Toprakkale Ironwork Analyses		
Identified Type	**Artefacts**	**Carbon and Phosphorus Content**
Type A	A large hoe An ingot Two arrowhead Three lance-heads	Low in phosphorus (0.019% to 0.183%) with a carbon level of up to 0.8%

[104] In Sargon II's palace at Dur-Sharrukan, the discovery of 160 tons of iron (Curtis *et al*. 1979: 382) including ingots, a grappling-iron, ploughshares, hammers and pick-axes, gives some idea about the quantity of iron and its importance for the Neo-Assyrian state.
[105] Piaskowski and Wartke 1989: 89-113.
[106] Piaskowski and Wartke 1989: 108.
[107] Curtis *et al*. 1979: 385-386, Fig. 35.
[108] Curtis *et al*. 1979: 371; McConchie 2004: 58-65.

	A ring fragment	
Type B	A mace-head	Very low in phosphorus (0.02%) and no trace of carburisation
Type C	A ring fragment	High amount of phosphorus (0.45%) with irregular carburisation traces up to 0.1%

The analyses of the Yukarı Anzaf iron spears and arrowheads also suggest homogeneous carbonization, as the carbon content of the main body of the spears measured between 0.3% and 0.6%, whilst their handles contain low levels or no carbon at all.[109] Analysis of three iron arrow heads and a chisel from Çavuştepe[110] shows that the former have a low carbon content, while McConchie has suggested that the latter contains a high level of phosphorus.[111] Similar metallurgical analyses conducted on iron objects from Karagündüz (a fragment of a dagger less than 0.15% and pommel 0.05%), Van Kalesi (a fragment of armour with a carbon content of 0.05%) and Ayanis (a fragment of a spear (lance?) a large nail, a arrowhead, and a bent fastener or hook (0.6%) show a diverse range of carbon levels within the objects.[112]

The homogeneous carburisation content of some of analysed objects (Toprakkale arrow-head, Yukarı Anzaf spears, Ayanis bent fastener and Karagündüz internal pins) suggests that either Urartian blacksmith were aware that carburization strengthened iron or they accidently achieved carburization for different parts of the objects. However, the question of whether there was deliberate carburisation (hardening) is hard to know. On the other hand, the use of fluxes consisting of animal bones and clay from Armavir[113] and Metsamor[114], which helped smiths to obtain ductile iron at lower temperature during the smelting process, clearly show that Urartian blacksmiths were highly skilled and had a sound knowledge of iron manufacturing. Overall however, Urartian blacksmiths were not consistent in their use of carbon or phosphorus, both of which are important to the alloying of iron. It is known that the existence of either carbon or phosphorus increases the hardness and strength of iron. This enabled Urartian blacksmith to make iron objects as hard as steel for construction, military, and agricultural purposes.

[109] Yalçın *et al.* 1995: 39-53.
[110] Geçkinli *at el.* 1990: 97-107.
[111] McConchie 2004: 26.
[112] McConchie 2004: 340-359.
[113] Martirosyan 1974: 151-152.
[114] Khanzadian *et al.* 1973: 195.

Overall, the archaeological remains suggest that Urartian craftsmen used iron for a great variety of objects including weapons, ornaments, agricultural and construction tools. However, we should ask why the use of iron seems to have been so widespread in all levels of Urartian society, when it is known that tin was available for the production of bronze artefacts – as indicated by the discovery of many bronze objects from citadel sites. Whilst it appears that state dependent metal smiths did not have a shortage of tin for bronze production, the Bingöl Burmageçit tomb appears to reveal that independent craftsmen did not have access to large quantities of tin (see II.3.2). On the one hand the Urartian period iron deposits and mining facilities located on the south-west of the Lake Van basin (Mağara Tepe, and Pürneşe) show that the rich ore deposits of this region were exploited on a large scale. Of the rich ore deposits of eastern Anatolia in the Murat River valley, Adıyaman, and Erzurum, Erzincan and Divriği and the remains of numerous mine galleries and slag dumps, it is highly likely that in these regions there were further iron mines that were exploited by either Urartian state blacksmiths or small scale independent workshops.

There were clear changes between the Early Iron Age and the Urartian period in the eastern Anatolian highlands and Armenia, in terms of iron and bronze usage. Firstly, in the earlier period iron predominates in cemeteries, and which suggests it was regarded as a prestigious metal and associated with élites. During the Urartian period iron objects were also used as grave goods, but iron lost its prestigious position in society. For example, the excavated Urartian period cemeteries in the Lake Van basin have produced many iron objects that belonged to ordinary people – with the exception of Altıntepe tomb III[115] (dated to the 8th and 7th centuries BC). Also unlike the earlier period, in the Urartian era, the majority of iron objects are from citadels or residential areas. There is a greater number of iron weapons and agricultural tools. By contrast, in the earlier period there were no items of iron in Armenia and north-east Anatolia and iron objects were also scarce at sites located in Elazığ Plain.

There is a close parallel with the establishment of the Urartian kingdom and the wider spread use of iron in a variety of forms. Iron objects are present from almost all excavated Urartian period sites, and by contrast, in the Early Iron Age, iron is limited to burials in the Lake Van basin. However like the Early Iron Age cemeteries of the Lake Van basin such as the Ernis-Evditepe, Karagündüz and Dilkaya, Urartian period cemeteries in the Van basin (Kalecik/Van, Van/Altıntepe and Yoncatepe) also show how iron kept its importance for making jewellery and weapons. Although iron may not be viewed as precious as in the earlier

[115] However, in Altıntepe tomb III there were few iron objects compared to bronze, gold or silver.

period by élites, it is likely that among ordinary people it was still regarded as a prestigious material. In the Early Iron Age period iron comes exclusively from burials and is noticeably absence from settlements. However, this might be explained by an imbalance in the archaeological excavation of sites in the Lake Van basin, where excavations have concentrated on burial grounds and citadels rather than actual settlements.

In the Lake Urmia basin the vast quantity of iron finds in a variety forms found in the destruction level of Hasanlu shows that before the arrival of Urartians into this region, iron was the dominant form of metal, and that it was not just available to a limited group of people. The destruction of Hasanlu was attributed to the Urartian kings Minua or Argišti I[116] at the time of kingdom's expansion into the Lake Urmia basin and judging by the large quantity of finds of iron and bronze from Hasanlu it is clear that there was a specialist class of metal smiths. Therefore, some of the members of this class might have been taken to Urartu. In fact there are numerous references in cuneiform inscriptions about the relocation of captured peoples in Urartian territory (see III.2 and III.4.4). Overall, the archaeological remains indicate that iron played a significant role in the socio-economic life of the Urartian people, which is revealed by the vast number of functional objects, which greatly benefitted farmers and construction workers.

II.3.4.2. Bronze

Archaeological excavations at Urartian sites such as Toprakkale, Altıntepe, Kayalıdere, Çavuştepe, Karmir-Blur, Ayanis, Yukarı Anzaf and Giyimli (Map 4) have revealed important bronze artefacts such as shields, swords, helmets, belts, quivers, nails, spear-heads, arrow-heads, cauldrons, votive plaques and vessels. At Hasanlu from the IVB period there were over 2000 copper and bronze artefacts, as in the case of iron finds, mostly in the form of ornaments such as lion pins, pins, bracelets and horse gears.[117] However the most important evidence relating to bronze in Urartian society comes from the Mušašir inventory list compiled by the Assyrian king, Sargon II.

This list of booty from the palace of Urzana and the temple of Haldi at Mušašir itemises various objects made of bronze, silver, gold, iron, ivory and other materials. Although the

[116] The destruction of Hasanlu level IVB (Dyson 1962: 637-647; 1965: 193-217; 1989: 3-11, Dyson and Muscarella 1989: 1-27) by a major fire, in the north-eastern Solduz valley, is dated to 800 BC by radio-carbon analyses (Dyson and Muscarella 1989: 9) and attributed to the reign of the Urartian kings Minua or Argišti I (Pecorella and Salvini 1982: 10; Burney and Long 1971: 134). See also Medvedskaya (1988: 1-15) arguments for an alternative dating of the destruction at Hasanlu based on historical material.
[117] Fleming *et al.* 2011: 103.

sacking of Mušašir was illustrated in the Khorsabad reliefs at Sargon II's palace of Dur-Sharrukin, unfortunately, the original relief itself was lost during its transportation in 1855 from Bagdad to Basra in the Tigris River.[118] However, a drawing of the missing reliefs was published by Paolo E. Botta and E. Flandin in 1849 (Figure 46).[119] This illustration shows officials weighing booty and soldiers carrying shields, vessels and spears, as well as cutting up a big statue with axes for removal. Most importantly, there are two scribes drawing up the list of spoils. Mirjo Salvini has argued that the Khorsabad relief depicted '*methodical spoliation of the treasures of the temple, and not looting*'.[120]

Table11. Bronze artefacts taken by the Assyrian king Sargon II from Mušašir's Temple

(ARAB II 173)

Mušašir Haldi Temple	
Name of Items	**Numbers of Artefacts**
Copper [Bronze]	3600 talents (108 tons)
Helmets, Shields	25,212
Lances, Spearheads	1,514
Swords, Daggers, Bows, Arrows, Quivers	305,412
Cauldrons, Water Jugs, Pans	607
Cauldrons with their covers (one with capacity of 80 and the rest with 50 measures of waters)	4
Statues of divine chief doorkeepers	4
Statues of Sarduri, Argišti, Rusa	3
Statue of a bull and cow with her calf	1

Table 12. Bronze artefacts taken by the Assyrian king Sargon II from Mušašir Palace

(ARAB II 172)

Urzana Palace	
Name of Items	**Numbers of Artefacts**
'White copper'[121]	Unspecified quantity

[118] For a detailed account of the loss of reliefs in the Tigris River see Larsen 1996: 344-349.
[119] Botta and Flandin 1849-1950: Pl. 140-141.
[120] Salvini 1991: 13.
[121] Belli (1991a: 28) suggested that 'white copper' mentioned by Sargon II must have been made of brass.

Cauldrons, Washbasins, Vessels Pans	13
Vases, Basins, Dishes, Deep Bowls Lambs	24
Various bronze objects	120

The impressive list of objects taken from the palace and temple details a great quantity of bronze and bronze objects (see Tables 11 and 12), similar in size to that found during the excavations of the sites of Karmir-Blur, Toprakkale, Giyimli, and Altıntepe. However, it should be pointed out that we should not draw far-reaching conclusions from this inventory of Urartian material culture. Considering that Mušašir was an important shrine in the ancient Near East, it is likely that rich offerings were made to the temple from different parts of the region, including Urartu, Tabal, Assyria and elsewhere. For example, among the booty lists of the palace and temple of the god Haldi, the Assyrian scribes noted a large quantity of silver objects from the land of Tabal as well as from Assyria.[122]

Most of the bronze artefacts recovered in archaeological excavation of Urartian sites feature varied decoration and cuneiform inscriptions. An inscribed statue of a bull and cow with her calf, dedicated by Išpuini to the temple of Haldi in the booty list of the Mušašir temple was recorded by the Assyrians.[123] Such inscribed artefacts were mainly made of bronze – although there are few silver and gold ones as well – and were found by the excavations. It is likely that these inscribed artefacts were produced in royal workshops that were under state control in various parts of the kingdom.

There were two types of inscriptions on the objects.[124] The first is in the form of a dedication made by a certain king to the god Haldi as '*urišhi*' which has been translated as the 'property of'.[125] The second is a short statement of ownership as '*urišḫusini'*[126] which translates as 'arsenal' or 'treasury' of the king or crown.[127] It is likely that the term '*urišḫusini'* refers to the armoury of the Urartian state, and is similar to the Neo-Assyrian *ēkal māšarti* which refers to a store-house or arsenal where booty, tribute and armour were kept.[128] The discovery of a text of the Assyrian king Esarhaddon (680-669 BC) at the Nebi

[122] Thureau-Dangin 1912: 357, 357, 361, 383; ARAB II 172-173.
[123] ARAB II 173.
[124] Seidl 1988: 170-171.
[125] For example B 5-1, B 8-9 and B 8-13.
[126] For example, B 5-5A-B-C.
[127] Salvini 1980: 187-188; 2012a: 13-14, see also Melikishvili, who translates (1960:175, UKN 177-190 no 2-3) the '*urišhi*' as 'weapon' or 'arsenal'.
[128] Læssøe 1959: 39; Oates and Oates 2001: 144-194.

Yunus (Fort Shalmaneser) mound close to Nimrud (ancient Nineveh), describes the functions of the *ēkal māšarti* as:

'*...the preparation of the camp, the mustering of the stallions, chariots, harness, equipment of war and spoil of the foe of every kind ... May I – every year without interruption – take stock (there) during the New Year's Festival, the first month, of all stallions, mules, donkeys, and camels, of the harness and battle gear of all my troops and of the booty taken from enemy*'.[129]

The Assyrian *ēkal māšarti* was built by the king Shalmaneser III (859-824 BC) and excavations at Fort Shalmaneser[130] uncovered an elaborate complex indicating that the building served as an arsenal and repository until the reign of Sennacherib (704-681 BC).[131] However, it should be pointed out that the majority of Urartian metal objects have been recovered from temple complexes with the exception of Karmir-Blur, where in storage rooms such as Rooms 25 and 36 there were hidden bronze objects with cuneiform inscriptions in the *pithos*. For example in one *pithos* (No 5) in Room 25 there were 97 bronze cups inscribed with the Urartian kings' names of Minua (six), Argišti (five), Rusa III (five) and Sarduri III (83).[132]

Many other Urartian bronze artefacts often bear the names of Urartian kings. For instance, we have many bronze utensils that are inscribed with the names of the kings İšpuini[133], Minua[134], Argišti I[135], Sarduri II[136], and Rusa III.[137] Obviously, such inscriptions are very useful when it comes to dating Urartian metalwork, when one considers that bronze artefacts were widely distributed through gift, tribute, dedication or plundering. The artefacts found at Karmir-Blur, which included shields[138], quivers[139], vessels[140] arrowheads[141], horse harnesses[142] and helmets[143], were inscribed with cuneiform text and date to the reigns of

[129] Oates and Oates 2001: 145.
[130] Oates and Oates 2001: 146-146, Fig. 91.
[131] A second *ēkal māšarti* is also known to exist at Khorsabad, called Palace F (Turner 1970: 72).
[132] Piotrovsky 1955: 9; Barnett 1959: 3, Fig. 2.
[133] Merhav 1991f: 200, 201, Pl. 1.2, Figs. 17 and 27.
[134] Merhav 1991f: 225, Figs. 28-29.
[135] van Loon 1966: 113.
[136] van Loon 1966: 113.
[137] van Loon 1966: 113.
[138]There were 15 bronze shields with dedicatory inscriptions of Argišti I, Sarduri II and Rusa III at Karmir-Blur (Piotrovsky 1970: 24, Figs. 36-42) and were decorated with rows of lions and bulls in concentric bands.
[139] B 9-10, 11, 12 UKN 175-176, UKN II 428.
[140] For example B 9-14, 15, 16 / UKN 193-259.
[141] B 8-18 / UKN 149a-c, B 9-13A-B / UKN 176a.
[142] For example, B 5-1, 3, 4 / UKN 118a-b-c.
[143] B 9-8A / UKN 174, B 8-10, 11, 12 / UKN 148, 148a, 407.

Minua, Argišti I, Sarduri II, Rusa II, and Rusa III. It is thanks to one of these inscribed artefacts – a fragment of a bronze door bolt with a ring (B 12-15/ UKN 283) –that we know that Karmir-Blur (Teišebai*)* was constructed during the reign of Rusa III in the 7th century BC. If it was not for this find, the site would have been dated to the reign of Argišti I. It appears that after the construction of Teišebai by Rusa III, the site of Arinberd (Erebuni) was abandoned and the artefacts stored in its storerooms were transferred to the site of Karmir-Blur.[144]

Table 13. Urartian helmets and findspots

Site	**Period**	**Publication**	**Number of Helmets**
Altıntepe	8th century BC	Özgüç 1966: 41; Barnett and Gökçe 1953: 125	2*
Ayanis	Rusa III	Derin and Çilingiroğlu 2001: 163, Figs. 13-14, 24	7
Burmageçit	Minua	Yıldırım 1988: 217-228, Figs. 1-2	5
Çavuştepe	8th century BC	Erzen 1973: 58	1
Karmir-Blur	Argišti I, Sarduri II	Piotrovsky 1969 Fig. 96; 1970: Figs. 43-48 ; Van Loon 1966: 118-121 Pl. XXVIb, XXVII, XXVIII, XXIXa-b	20

* Barnett and Gökçe (1953: 125) mentions two fragments of bronze and Tahsin Özgüç also (1966: 41) mentions helmets but without saying exactly how many and does not provide any illustrations.

Among the bronze artefacts that define the metal culture of Urartu, military equipment (shields, helmets, quivers, arrowheads, swords, daggers, lances and spearheads) and everyday utensils (vessels, cauldrons, cups) are the most dominant items found in the archaeological record by far. Urartian shields (*aše*) were usually decorated with three concentric rows of lions and bulls with each row separated from the others by concentric bands (see Table 14). Each of these rows is usually decorated with representations of lions and bulls.[145] Rivka Merhav suggests that lion and bull motifs might represent the animal attributes of Haldi.[146] Furthermore, there are usually three handles for the suspension on the inner side of each

[144] Piotrovsky 1969: 71; 1970:24.
[145] Piotrovsky 1967: 44-45.
[146] Merhav 1991d: 137.

shield and their central parts usually consist of a cone-shape.[147] Ayanis shields indicate that they were made of beaten sheet of bronze and feature iron bars to strengthen them.[148] There are both plain and decorated shields with lions and bulls at sites such as Karmir-Blur, Toprakkale[149], Ayanis[150], Altıntepe[151], Yukarı Anzaf[152] and Kayalıdere[153] (see Table 14). Similarly helmets (*kubuše*) of curved and conical forms[154] are known from Çavuştepe[155], Ayanis[156], Burmageçit[157], Altıntepe[158] and Karmir-Blur[159] (see Table 13). Conical helmets were formed by joining identical halves of metal together with rivets. When offered as votives, such helmets, like shields and quivers, usually bear a dedicatory inscription to the might of Haldi and are decorated with elaborate scenes of chariots, riders, wild goats being hunted, and sacred trees with lightning.[160]

Among the booty list of the Mušašir temple '*12 shields of silver ornamented with heads of dragons, lions and wild-oxen*'[161] are mentioned. A similar shield to those mentioned by Sargon II was found in the Ayanis temple courtyard. The Ayanis shield was richly decorated with a central lion's head motif.[162] The outer surface was divided into three bands and decorated with lion and bull figurines similar to the Karmir-Blur shields of Argišti I[163] and Sarduri II.[164] Along the rim there is the double line of a cuneiform inscription which states

[147]On the Khorsabad reliefs of Sargon II's palace at Dur-Sharrukin where the sacking of Mušašir is illustrated, there is a depiction of shields hanging on the walls of the façade of the temple (Botta and Flandin 1849-1950 Pl. 141) and at Balawat Gates of Salmanasar III Urartian soldiers are depicted with their round shields (King 1915 Pl. XII).
[148] Derin and Çilingiroğlu 2001: 161.
[149] Barnett 1950: 13-15, Figs. 8-9, 1972: 163-168 Figs. 1-4; Wartke 1990: 46-58, Abb. 2-7.
[150] At Ayanis 10 bronze shields of round and conical shape with a wide rim were unearthed (Derin and Çilingiroğlu 2001: 161, Figs. 11, 19-21, 23).
[151] Özgüç 1966: 6, Pl. XXXIV 7.
[152] Belli 1999a Fig. 17.
[153] Burney 1966: Fig. XXI b-c.
[154] Calmeyer 1991: 123-133; Çilingiroğlu 1997: 106-107; van Loon 1966: 118-121.
[155] Erzen 1973: 58.
[156]There are 7 helmets at the site of Ayanis (Derin and Çilingiroğlu 2001: 163, Figs. 13-14, 24). Six of them were made of bronze in conical form and one made of iron in a funnel shape.
[157] Yıldırım 1988: 217-228, Figs. 1-2.
[158] Özgüç 1966: 41.
[159] Piotrovsky 1970: Figs.43-48; 1969, Fig. 96.
[160]On the Balawat Gates of Salmanasar III (9th century BC) Urartian soldiers were depicted with their crested helmets (King 1915 Pl. IV, X). In the same scene Assyrian soldiers are also depicted with their conical helmets. However archaeological excavations on Urartian sites so far have not unearthed any crescent shaped helmets.
[161] ARAB II 173.
[162] Derin and Çilingiroğlu 2001: 163, Figs. 11, 12 and 21, 22, 23.
[163] Piotrovsky 1967: 17, Fig. 4.
[164] Piotrovsky 1967: 18, Fig. 5.

that king Rusa dedicated the shield to the god Haldi.[165] It is also known that Sarduri II received 2,000 bronze shields from Qumaha as a tribute.[166]

Table 14. Urartian shields and Sites

Site	Period	Publication	Number of Shields
Altıntepe	8th century BC	Özgüç 1966: 41, Pl. XXXIV 7; Barnett and Gökce 1953: 123 Pl. XV1, 2 Fig. 2	1
Ayanis	Rusa III	Derin and Çilingiroğlu 2001: 161, Figs. 11, 19-21, 23	10
Kayalıdere	-	Burney 1966: Fig. XXI b-c	2
Karmir-Blur	Argišti I, Sarduri II Rusa III	Piotrovsky 1969 Figs. 88, 89, 91; 1970: 24, Figs. 36-42; van Loon 1966: 116-117 Fig. 13 Pl. XXVa-b; Barnett 1957:5-7 Pl. 2a	15
Toprakkale	Rusa II, Rusa III	Barnett 1950: 13-15 Figs. 8-9, 1972: 163-168, Figs. 1-4; Wartke 1990: 46-58, Abb. 2-7. Van Loon 1966:Pl. XXVIa; Erzen 1962: 406, Fig. 14	7
Yukarı Anzaf	Ispuini, Argišti II	Belli 1999a Fig. 17; Belli 2006: 147	2

The booty list from the temple also contains *'6 shields of gold which hung right and left in his house and shone brilliantly, with the heads of snarling dogs protecting from their centres, and containing 5 talents and 12 minas of shining gold'*.[167] The discovery of a small lion statue at Ayanis indicates that Urartian metal smiths plated bronze artefacts with gold leaf in order to give the impression that they were made of pure gold. In this respect, Zafer Derin and Altan Çilingiroğlu[168] suggest that the shields mentioned in the Sargon II booty lists were probably not manufactured in solid gold but rather, plated with gold leaf to give the same impression.

Bronze quivers also feature in temple complexes in great numbers along with other military equipment such as arrowheads, lances, and swords (see Table 15). Urartian quivers

[165] B 12-1; Salvini 2001c: 271-272.
[166] A 9-3 IV 52-56 / UKN 155 E.
[167] ARAB II 173.
[168] Derin and Çilingiroğlu 2001: 163.

(*gurbi*) usually consisted of a flattened tube about 10 cm in diameter, between 65 and 70 cm long, and their bases are covered with a bronze plate.[169] Piotrovsky suggests that each quiver contained between 35 and 40 arrows.[170] Support for this suggestion is provided by the discovery of a quiver from the site of the Ayanis temple area which contained 36 arrowheads.[171] A clay tablet from the site of Yukarı Anzaf (CT An-1) mentions the distribution of 392 arrows (*GIŠ.GAG.TI*), 13 bows (*GIŠ.BAN*), and one lance (^{GIŠ}*šú-ri*) to 16 men. Each man carried between 20 and 30 arrows and a bow with the exception of a man named *KikaMAH* (see III.3.3.3).[172] Sargon II in the Mušašir temple mentions that he took away 305,412 bronze swords, daggers, bows arrows, quivers as well as 1,514 bronze lances and spearheads.[173]

Table 15. The sites which produced Urartian quivers and their period

Site	**Period**	**Publication**	**Number of Quivers**
Altıntepe	8th century BC	Barnett and Gökçe 1953: 126, Pl. XVIII/3-4	1
Ayanis	Rusa III	Derin and Çilingiroğlu 2001: 158-161 Figs. 6, 7, 8, 9 and 10	67
Çavuştepe	-	Erzen 1988: 10	1
Kayalıdere	Argišti II	Burney 1966: 93-95, Fig. 18/6b, Pl. XVIIIb-c	5
Karmir-Blur	Argišti I, Sarduri II	Piotrovsky 1950: 51; 1952: 50; 1967: 46; 1970: Fig. 49; 1969: 178, Figs. 85-86; van Loon 1966: 121	18
Toprakkale	Rusa II	Barnett 1972:168-171 Figs. 5, 6, 7, 8a-c, 9	6
Yukarı Anzaf	Sarduri II	Belli 2004:283 Figs. 5-10	3

Archaeological excavations on Urartian period sites have also unearthed bronze vessels in various shapes and sizes and it is known that these vessels were widely used by Urartian society in their religious and social life. For example, at the wine cellar of Karmir-Blur, 116

[169] Van Loon 1966: 121; Piotrovsky 1967: 47; Derin and Çilingiroğlu 2001: 158.
[170] Piotrovsky 1967: 47.
[171] Derin and Çilingiroğlu 2001: 159.
[172] CT An-1lines 21-22.
[173] ARAB II 173.

bronze cups[174] were found and each of these cups bore inscriptions of the Urartian kings Minua[175], Argišti I[176], Sarduri II[177], Rusa I[178] and Rusa III.[179] It is also known that Sarduri II took 1,535 bronze cups from the king of Qumaha (see III.4.5).[180] Sargon II listed 607 bronze cauldrons, water jugs and pans from the temple of Mušašir in his annals (see Table 11).[181] Metal vessels were also depicted on monumental reliefs[182] along with decorated metal objects (such as belts[183], quivers[184], votive plates[185], helmets[186], horse harnesses[187] and vehicle parts).[188] In these depictions we can see bowls, dishes, and jugs being used in banquets, parades, religious rituals and ceremonies. Some of the bowls were decorated with thin bands, fluted motifs, inscriptions and animal heads; incised and repousse decoration also can be seen. It is evident that vessels were widely used in ceremonial and everyday life by Urartian society.

However, among the bronze artefacts that have been linked with Urartian material culture there are the so-called 'siren' and 'bulls' heads' cauldrons (see II.4 for detailed discussion). Cauldrons with winged bull attachments have also been found at the sites of Altıntepe (Figure 80)[189], Toprakkale[190] Guschi[191] and an example with a siren attachment came from the site of Alişar[192] (see Table 16). There is also the mention of cauldrons in Sargon II's account of the Mušašir booty; in particular, four large bronze cauldrons with their bronze standards. One of these had a capacity of 80 measures of water and the rest have a capacity of 50 measures (see Table 11).

[174] Piotrovsky 1969:153, Figs. 97-98.
[175] Six bronze vessels: B 5-5A-B / UKN 112-117.
[176] Two bronze vessels: B 8-19-20 / UKN 151-152.
[177] 86 bronze vessels: B 9-14, 15, 16 / UKN 193-259 / B 9-19, 20, 21 / UKN 177-190, B 9-22A-B / UKN 191-192.
[178] 9 bronze vessels: B 10-2, 3 / UKN 270-274a-c.
[179] Three bronze vessels: B 12-6 / UKN 285.
[180] A 9-3 IV 52-56/ UKN 155 E.
[181] ARAB II 173.
[182] Bilgiç and Öğün 1964: 70-79, Fig. 2.
[183] Kellner 1991a: 69 Pl. LXX, no 279; 67 Pl. LXVI, no. 256 no. 261 Pl. LXIX, no. 262.
[184] Calmayer, 1991: 125, 132, no. 17a-b.
[185] Taşyürek 1978: 210, 211, Fig. 22; Taşyürek 1980: 213, Fig. 12, Pl. IX 20; Işık 1990: 16,17, Fig. 1; Merhav 1991h: 306, Fig. 1.
[186] Seidl 2004: Fig. 29 (Argišti I), Fig. 30 (Sarduri II), Figs. 31-32.
[187] Seidl 2004, Figs. 64, 82, 85 and 90.
[188] See pictorial example of Toprakkale, Piotrovsky 1967: 51, Fig. 34; Kellner 1991c: 164, Lev. 2-3.
[189] Barnett and Gökçe 1953: 121-129 Pl. XIII, XIV, XIX-I.
[190] Barnett 1950: XVI.
[191] Piotrovsky 1967: 37-39 Figs. 23-24; Hanfmann 1956: 205-213.
[192] Muscarella 1992.

Table 16. Urartian Bronze cauldron and their contexts of discovery

Site	Publication	Context
Altıntepe	Barnett and Gökçe 1953: 121-122 Pl. XIII, XIV, XIX/1 Piotrovsky 1967: 40 Fig. 26/1	Tomb chamber
Ayanis	Çilingiroğlu 2001:71-72 Fig. 7	Citadel
Gushci	Piotrovsky 1967: 37-39, Figs. 23-24; Hanfmann 1956: 205-213	Tomb chamber
Karmir-Blur	Barnett 1959:8; Piotrovsky 1967: 43, Fig. 29	Citadel
Toprakkale	Barnett 1950: Pl. XVI	Citadel
Veracham (Alishar)	van Loon 1966: 104; Piotrovsky 1967: 86; 1969: Fig. 108	Tomb chamber

Maurits N. van Loon[193] argued that Urartian art of the 9th century BC was influenced by its Assyrian equivalent, and as a result of this influence there were two distinctive art-styles: 'court style' and 'popular style'. The high quality bronze objects of the 'court style' were achieved by regulating details and imposing certain limitations on iconography. The objects in this category are known for their functional forms (helmets, shields, quivers, and cauldrons). The 'popular style' was represented by bronze belts mostly found in Urartian period graves (see Table 17).

Urartian bronze belts were richly decorated with scenes of divinities[194], worship, banqueting[195], hunting[196], warriors[197], chariots[198], towers[199], as well as floral and geometric designs.[200] On these belts[201] were depicted different types of animals such as goats, bulls,

[193] van Loon 1966: 166-169.
[194] Karmir-Blur (Piotrovsky 1969 Fig. 80).
[195] Kellner 1991a: no. 262, 269, 279, 282.
[196] Metsamor (Khanzayan *et al*. 1973:181, Fig.170).
[197] Çavuştepe (Mellink 1963: 182).
[198] Kayalıdere (Burney 1966: 77, Fig. 10, P1. IXb and XIb).
[199] Çavuştepe (Erzen 1988: 59, Pl. XXXIVa-b).
[200] The most comprehensive catalogue of Urartian belts has been compiled by Hans-J. Kellner (1991a). Kellner records over 400 belts, mostly from various museums and private collections all around the world and divides them into 12 groups based on iconographic similarities. Most of the published Urartian belts are from unknown provenances with some exceptions (see Table 17).
[201] The belts are made of thin sheet of bronze and usually about 110-120 cm long and 10 cm wide and sewn onto a backing of leather.

horses, birds and also fantastic creatures.[202] The depiction of composite creatures such as winged horses and birds with human heads are among the most commonly depicted mythological creatures. In contrast to the rich figural vocabulary of the 'popular' styled artefacts, Paul Zimansky points out the variations in style and quality of plaques and votives objects, as well as the uniformity of military equipment.[203]

Table 17. Urartian belts and their context of discovery and dating period

Site	**Period**	**Publication**	**Context**
Ani Pemza	8th century BC	van Loon 1966: 123;Piotrovky 1967: 50; 1969: Fig. 84	Burial
Altıntepe	Argišti II	Özğüç 1961: 272-273, Figs. 23-24; van Loon 1966: 121, Pl. XXXa	Burial
Arinberd	Argišti I? Sarduri II ?	Piotrovsky 1967: 20, Figs. 7, 49-50	Burial
Burmageçit	Argišti I, Sarduri II	Yıldırım 1991: 131-148	Not known
Çavuştepe	8th century BC	Erzen 1988 Pl. XXXIV a-b	Citadel
Dedeli	8-7th century BC	Taşyürek 1977: 153-165	Burial
Giyimli	8th century BC	Erzen 1974: 207-209 Pl. 39-40	Citadel
Gushci	8th century BC	Hamilton 1965: 41; Hanfmann 1956: 208 Pl. 20; Piotrovsky 1967: 50	Burial
Iğdır	8th century BC?	Barnett 1963: 177 Figs. 30-31	Burial
Karahasan	7th century BC	Taşyürek 1973: 203-205 Pl. 1-5	Citadel
Karmir-Blur	8th century BC	Piotrovsky 1967: 48-49, Fig. 31; 1969: Fig. 80; Barnett and Watson 1952, P1. XXXII; van Loon 1966:122 Fig. 14	Citadel
Kayalıdere	8-7th century BC	Burney 1966: 77-78, Fig. 10 Pl. IXb, XIb	Citadel
Metsamor	8th century BC	Khanzayan *et al.* 1973:198 Fig. 170	Burial
Nor Aresh	8th century BC	van Loon 1966: 123, Fig. 80; Piotrovsky 1967: 48-49, Fig. 31 Barnett, 1963:195, Fig. 41	Burial

[202] Curtis 1996: 118; Khanzayan *et al.* 1973: 181, Fig.170.
[203] Zimansky 1995: 176.

Shirak	8th century BC	van Loon 1966:123; Piotrovsky 1967:50; Barnett 1963: 183 Fig. 55	Burial
Tli	-	Seidl 1988: 172	Burial
Toprakkale	7th century BC	Barnett 1954: 9, Fig. 11; 1972: 171 Figs. 13-18	Citadel
Zakim-Kars	8th century BC	Piotrovsky 1967: 50; 1969; Fig. 81; van Loon 1966: 123-124 Fig. 15; Azarpay 1968 Fig. 13	Burial

As in the case of the Mušašir temple complex, archaeological excavation at Urartian sites such as Ayanis, Kayalıdere, Yukarı Anzaf and Altıntepe have yielded numerous bronze artefacts which suggest that the Urartians used these objects, along with other armour, to decorate the walls and pillars of temple courtyards. In fact, some of the shields from the site of Ayanis seem to have been crushed when they fell from the walls of the temple.[204] The recovery of large quantities of bronze artefacts from Urartian temple complexes and Sargon II's account of the Mušašir temple inventory list suggest that in Urartu a cult of weapons existed. The discovery of the Çavuştepe metal workshop close to the Haldi temple complex, and numerous bronze ingots from this workshop also indicate that there might have been special or separate workshops that produce artefacts of dedication.

Overall, it seems reasonable to suggest that there might have been three types of bronze production. The first group consisted of votive objects, the second comprised of weaponry and last, there were everyday items. The votive artefacts were usually dedicated to the 'national' god Haldi and there are numerous examples from Urartian temple complexes as well as the Mušašir inventory list of the Assyrian king Sargon II.

II.3.4.3. Silver and Gold

Silver and gold were used to make jewellery such as earrings (Karmir-Blur[205], Yoncatepe[206] and Altıntepe)[207], pin heads (Karmir-Blur)[208], spindle beads (Altıntepe)[209] beads

[204] Çilingiroğlu 2005: 33, Fig. 6.
[205] Piotrovsky 1967: 174, Pl.119; 1969 Pl. 119.
[206] Belli and Konyar 2001: 154 Fig. 8.
[207] Özgüç 1983: 35 Pl. XIIIa.
[208] Piotrovsky 1969: 124.
[209] Özgüç 1983: 35, Pl. XIIIb.

(Altıntepe)[210], bracelets (Karmir-Blur)[211], votive plaques (Altıntepe)[212] and in the decoration of various types of objects. The discovery of a silver lion figure at Karmir-Blur[213] and the fragment of a gold plaque inlaid with turquoise representing a lion[214], illustrates the technological and artistic competence reached by Urartian craftsmen. Gold and silver medallions and pectorals[215] have also been found at Toprakkale and Karmir-Blur.[216] We have also various artefacts made of silver, such as belts (Altıntepe)[217], vessels (Karmir-Blur)[218], bowls, and buckets.[219]

However, the best evidence for the use of silver and gold is illustrated by the quantity of booty taken by Sargon II from the palace and Haldi temple at Mušašir. Sargon II stated that 34 talents and18 *minas* of gold, 167 talents and 2.5 *minas* of silver were taken from the palace, which is the equivalent of over 1 ton of gold and 5 tons of silver. From the Haldi Temple of Mušašir Sargon II further mentioned over 1 ton of gold and 5 tons of raw silver as well as shields, daggers, basins, chariots, bows, quivers, maces, and cups made of both silver and gold (see Table 18).[220] There is also mention of various objects decorated with gold and silver made of other materials in the booty list.

Table 18. Silver and Gold from Mušašir palace and temple taken by the Assyrian king Sargon II (ARAB II 172-173)

Mušašir Haldi Temple		**Urzana Palace**	
Name of Items	**Numbers of Bronze artefacts**	**Name of Items**	**Numbers of Bronze artefacts**
Gold	--- X + 4 *talents*, 3 *minas* of gold (1 ton)	Gold	34 *talents* and18 *minas*
Silver	162 *talents*, 20	Silver	167 *talents* and

[210] Özgüç 1983: 35, Pl. XIII c, e-f.
[211] Piotrovsky 1969: Pl. 118.
[212] Özgüç 1983:36, Pl. XVIa-b.
[213] Piotrovsky 1969: Fig.120.
[214] Piotrovsky 1969: Fig.121.
[215] Meyer 1995: Pl. 209, 120; Piotrovsky 1969: 122.
[216] It assumed that medallions and pectorals reflected the rank and position of their wearer in Urartu society (Kellner 1991c: 166). At Toprakkale a gold medallion depicting a goddess holding a branch (Meyer 1955:Pl. 210) and a silver pectoral with a female figure leading a goat approaching the enthroned god (Meyer 1995: Pl. 209) are known to have been recovered by Lehman-Haupt.
[217] Özgüç 1983:37 Pl. XVIc-d.
[218] Piotrovsky 1969: 125.
[219] Merhav 1991f: Figs.2.1, 20a, 22, 23, 24.
[220] ARAB II 172, 173.

	minas, less 6/36, of silver (5 tons)		2.5 *minas*
Gold shields	6	Golden daggers	6
Gold ashtarti door	----	Silver cups with covers	11
Gold bolt	1	Cups from the land of Tabalu with ears of gold	---
Gold keys	2	Silver *gurpisi* and javelin incrusted with gold	---
Gold shrine Ornaments	---	Silver cups	34
Gold dagger	1	*Lutti* and *susani* of gold	----
Lances, *gurpisi*, bows, spear of silver with inlay of gold	96	Cups incrusted with silver	54
Silver shields	12	*Siprate*, crescents and rings of silver	--
Silver basins, vases, ovens, vegetable baskets with inlay of gold	67	*Azanat* of silver	5
Silver *Musarirte*, *lukilte* with inlay of gold	62	*Kabuate*, *Mukarrisi Nabli*, censers of the land of Tabal	--
Silver chariots, bows, quivers, maces(?), *manziâte*(?), shields, *siprat*, *purdi* and standards	33	-	-
Silver pans in various size from Assyrian, Urartian and Kirhian	393	-	-
Gold seal ring	1	-	-
Silver whip with inlay gold	1	-	-
Silver bed covered with jewels and gold	1	-	-

II.3.5. Conclusion

Despite the lack of written evidence about the sources of ore deposits, the methods of smelting, and forging, or the central government's role in the organisation and manufacturing, there is archaeological evidence for mines and metal workshops in various parts of Urartian territory - especially in the Lake Van basin and the Ararat Plain. It is evident from the construction of citadels with temple, storage facilities, administrative and public building on large scale as well as water facilities, the clearance of new land from agricultural activities and the remains of various metal artefacts of iron and bronze from the Urartian period show that metallurgical activities played a crucial role in the socio-economic development of Urartian society. In particular, the amount of iron needed for the Urartian military and for construction and for agricultural tools, suggests that vast quantities of iron were forged in the workshops that operated under the control of central government in various centres as well as in rural metal workshops. However, in the archaeological record bronze artefacts far outnumber iron one. Furthermore, judging by the tributes that Assyrian kings received from the Lake Van basin, it seems that Urartian metal production was highly developed when it came to both utilitarian objects and ornaments.

The discovery of numerous bronze artefacts from temple complexes and the Assyrian king Sargon II's account of the Mušašir temple inventory also clearly show the importance of bronze, silver and gold in the religious life of Urartian society. Overall, discoveries from Urartian sites indicate that bronze was mainly used in the ornamentation of furniture and vessels, as well as in the production of weapons, whereas iron was used predominantly for utilitarian ends; tools and weapons. Silver and gold was used for jewellery and also for decorating precious objects. Studies on these artefacts show that forging, casting and hammering techniques were the principal techniques used in the production of metal objects.

II.4. TRADE

II.4.1. Introduction

In this chapter I will present a brief historical review of general scholarly opinion regarding the changing character of the economy in Urartu. I will then present the available evidence for trade within the kingdom, from both written and archaeological sources. Finally I will examine the overall impact of trade activities on the Urartian economy.

While it has been widely accepted that Urartian metal artefacts were traded across the Near East and the Aegean throughout 8th and 7th centuries BC, little is known about the relationship between this long-distance trade and the Urartian state itself and there is no concrete evidence to prove that any Urartian merchants participated in this trade as a commercial activity. Therefore, an evaluation of the relevant arguments, trade routes and the material culture of Urartu is necessary, in order to understand whether this presumed long-distance trade really existed and, if so, how important a role it played in the overall economy of the Urartian state.

Urartian military campaigns generated a handsome income for the state as well as for its aristocracy. Urartian territory was also well provided with rich natural resources, but discoveries of ivory (Figure 69)[1], Egyptian blue (synthetic pigment)[2] and the high percentage use of tin in bronze production (see metallurgy) at Urartian sites suggests that they acquired at least some of their exotic goods by means of trade. In contrast to second millennium BC palace-centred economies, in which palaces held a dominant position in the trade in various specialised items and aspects of production, the first millennium BC economies of Near Eastern states appears to have been much less centralised.[3] During the Bronze Age, kings and lesser rulers had their own merchants, who traded by royal approval.[4] A similar situation is observed during the Neo-Assyrian period of the first millennium BC, where *tamkāru*=DAM.GÀR acted with the approval of the king as a royal agent.[5] It is evident that luxury goods and precious items were commodities that were in demand by the palace and

[1] Altıntepe (Özgüç 1969: 78-93), Toprakkale (Barnett 1950: Pl. XIV 1, 3, Pl. XIV 2, Pl. XII 4, 5, 6-12) and Karmir-Blur (Piotrovsky 1967: 58, Figs. 39, 40, 42, 43).
[2] Reindell 2009: 533-535.
[3] Liverani 2003: 121; Sheratt and Sheratt 1991: 376.
[4] Liverani 2003: 121.
[5] Radner 1999: 101-102.

members of its élite and for whom merchants acted as agents, or in some cases, where the king himself was an agent.[6]

Karl Polanyi,[7] using data from the Assyrian Colony period archive of *Kaniš* Karum (Kültepe level II and Ib) from the first quarter of second millennium BC,[8] argued that trade was administrated by the palace and supply and demand did not play a major part in the system. Rather, Polanyi argued that prices were set by official agreements which were not effected on the basis of availability of product and therefore there was no fluctuation in product prices.[9] However, the most controversial part of the argument put forward by Polanyi was the absence of markets or a marketplace in the ancient Near East.[10] The idea of market-less trade was challenged by Morris Silver.[11] A. Leo Oppenheim[12], who was also critical of Polanyi's view of a single redistributive systems - where goods and labour flowed to a central authority and from there back out again - of Mesopotamian society and market-less trade, pointed out the importance of the city for the development of Mesopotamian societies, with '*goods and services channelled into a circulation system*'[13] either by temple or palace.

As the Mesopotamian cities grew, their residents began '*...relying primarily on their out of town farms for food and supplies, so that the market place as a means of economic integration was very slow to gain what little importance it eventually assumed in Mesopotamia*'.[14] The city gates functioned as a market place where the exchange of goods or food took place. Gates were therefore functioned as a link between the city dwellers and those who lived outside it.[15]

After the collapse of the great kingdoms (of the Hittite, Mitanni, Babylon etc.) during the 12th century BC, city-states and ethnic states came to replace the former palace centred states.[16] Subsequently the palace lost its importance as a location for specialised crafts and

[6] Liverani 2003: 122; Sheratt and Sheratt 1991: 376.
[7] Polanyi 1957a: 12-26.
[8] See Larsen (1967) and Veenhof (1972) on the Kültepe archive of Assyrian Colony period in particular for an assessment of the economic organisation and business transactions of traders who operated between city of Assur and *Kaniš* (Kültepe) in central Anatolia.
[9] Polanyi 1957a: 20.
[10] Polanyi, emphasised that in order to understand non-market societies, the movement of materials or the modes of circulation within a given society should be analysed and focused on redistribution – '*movements towards a centre and out of it again*'; reciprocity – '*movements between correlative points of symmetrical groupings*'; and exchange '*vice-versa movements taking place as between hands under a market system*' (Polanyi 1957b: 250).
[11] Silver dissented with Polanyi approaches in 14 assertions and argued against their validity Silver (1983, 1985). See also Renger (1994: 157-208) for Polanyi (1957a; 1957b) and Silver (1983; 1985) views on Polanyi approaches to the problem of market in the ancient Near East.
[12] Oppenheim 1964.
[13] Oppenheim 1964: 95.
[14] Oppenheim 1964: 114.
[15] Oppenheim 1964: 129.
[16] Sheratt and Sheratt 1991: 376.

exchange activities. During the first millennium BC local community organisations such as the elders and assemblies were gaining importance from the Royal Palace, which was simply becoming the king's residence.[17] Merchants gained more importance in this new era which lacked state control of trade and exchange. However, the Urartian state would appear to be an exception to this, in which the palace maintained its status as a specialist craft centre (see II.5). Urartian citadels consisted of large complexes that included temple, storage rooms, workshops, administrative and public buildings and employed a certain number of people (CT Tk-1 Ro / UPD 12, CT Çav-1 and 2). In this new era trade was organised and conducted by specialist groups of merchants and there were new cities and communities that were entirely dependent on trade for their existence.[18] One of the most interesting aspects of this period is the fact that there were no state archives relating to trading activities in the ancient Near East. However, one would not expect there to be any such records, given the nature of Urartian record keeping, because there was no Urartian state archive and the records that do exist are very different from that of the Neo-Assyrian state. Therefore the status of merchants and their effect on Urartian society is hard to determine.

II.4.2. North-South Trade Routes

The Urartian kingdom's role in long-distance trade is an issue that has long been debated by Near Eastern scholars, and yet it remains unresolved. Near Eastern scholars view the on-going struggle between Urartu and Assyria in the 8th century BC as being related to the control of trade routes and access to vital ore sources. The Urartian state reached the zenith of its power in that century, in the reigns of Minua and Argišti I. During this time the kingdom began to extend its power over Caucasia (Armenia) in the north, north-west Iran (Lake Urmia) in the east, northern Syria in the south and to south-eastern Anatolia in the west. It has been argued[19] that this extension of territories brought important trade routes under the control of the Urartian state, and that power subsequently shifted in favour of Urartu as a result, with the Urartians being able to establish control over the Neo-Hittite states in north Syria (Hama, Qumaha, Bit-Agusi etc.). They therefore gained control over trade centres such as Al-Mina in the south and, by extending their power over the Caucasia and

[17] Liverani 2003: 130-131.
[18] Liverani 2003: 136-137.
[19] Barnett 1956: 229-237, 1984: 366-369; Slattery 1987: 1-30; Birmingham 1961: 191-195; Winfield 1977: 152; Piotrovsky 1969: 81; Levine 1977b: 171-186; Saggs 1988: 98-100; Burney and Lang 1971: 147-148; Belli 1982: 161; Medvedskaya 1988: 11.

with conquest of Araxes Valley and Karasu River basin, they also gained control of the northern section of these trade routes.

Control of the trade routes by the Urartian state was first suggested by Barnett[20] and then later argued for by others.[21] It has been stated that during the reign of Minua, Argišti I and Sarduri II, the northern section of these trade routes was opened up by the conquests of the kingdom of Diauehi in the Araxes Valley and here it is connected to the trading stations founded by the Greek colonies at Sinope *(c.*750 BC) and Trebizond (*c.*757 BC).[22] In Barnett's view, with the conquest of the Qulha[23] (the Colchians) by Sarduri II[24], the Urartians linked the trade route through Mannean lands with a road that passed through Erzurum and onwards to the Black Sea.[25] The northern section of this route would have run from Lake Urmia, and passed over the Zagros Mountains via the Ruwandiz gorge. From there it would have travelled over the Erzurum and Erzincan plains, where the site of Altıntepe is located, and then through the Araxes Valley to reach the Black Sea and the ports of Trebizond and Sinope.

Although the Greek colonies may have existed during the period of Urartian domination of north-eastern Anatolia and north-western Iran, as David J.G. Slattery[26] points out, there is no evidence to indicate that there was any direct connection with the Greek colonies on the Black Sea. However, considering their relatively new establishment and development, it seems unlikely that either Sinope or Trebizond were in a position to engage in trade activities.[27] Slattery[28] argues that Diauehi stood between the Black Sea colonies and Urartu. If there was any trade between these areas it must have been limited and probably took place via intermediary neighbours. According to Slattery, Urartu and the Greek colonies were interested in the same commodities and as a result of their common interest; it appears that Diauehi played the role of mediator between Urartu and the Greek colonies.[29] However,

[20] Barnett 1956: 229-237; 1984: 366-369.
[21] Slattery 1987: 1-30; Birmingham 1961: 191-195; Winfield 1977: 152; Piotrovsky 1969: 81; Levine 1977b: 171-186; Saggs 1988: 98-100; Burney and Lang 1971: 147-148.
[22] It is known that the period of Urartian expansion towards north-east Anatolia coincided with the appearance of Greek colonies on the eastern Mediterranean and Black Sea regions. The Greeks were interested in the region's mineral resources. For more detail on the Greek colonies of the Black Sea, see Boardman (1999: 238-257) and Drews (1976: 18-31).
[23]Historical Colchis, located in south-west of Georgia as far as lower Çoruh River basin by Diakonoff and Kashkai (1981: 68-69).
[24] Analı-kız/Hazine Kapısı inscription of Sarduri II mentions two military expeditions against Colchis (A 9-3 II / UKN 155 C, A 9-3 III / UKN 155 D).
[25] Barnett 1956: 229.
[26] Slattery 1987: 1-30.
[27] See Greaves (2010: 137-143) for the nature of Greek colonies in their early development stage.
[28] Slattery 1987: 21.
[29] Slattery 1987: 21; Tsetskhladze 1992: 223-258.

contrary to this suggestion, it is known that the Urartian king Argišti I[30] annexed the Diauehi kingdom, and therefore, it is unlikely that it played a mediating role.

On the other hand, the southern section of the this trade route passed through the Assyrian heartlands, from Hamadan and Kermanshah to the Zagros Mountains[31] and through south-eastern Anatolia and northern Syria, reaching Carchemish[32] (modern Kargamış), and from there to the eastern Mediterranean trading ports such as Al-Mina. Hasanlu was an important settlement along the east-west trade route at the beginning of the 10th and 9th centuries BC.[33] According to this argument, at the end of the 9th and the beginning of the 8th centuries, the Urartians began to penetrate the Lake Urmia region and, as a result, there was a shift in the flow of goods in favour of Urartu. Henry W.F. Saggs[34] has argued that some of these goods probably passed through Assyrian lands before the Urartians channelled them north to their own territory and the diversion of these routes inevitably created economic problems for Assyria.

It has been suggested that Urartian goods – particularly bronze artefacts – were widely traded to the Near East, Greece and Italy. The assumption has often been that the Neo-Hittite city states of south-eastern Anatolia and north Syria were strongly influenced by the Urartian kingdom, and therefore, the Urartians used the eastern Mediterranean trade ports in order to participate in exchange of goods. For example the port of Al-Mina was strongly associated with Urartia in this regard.[35] However, it is known that at Al-Mina there is no material evidence (e.g. pottery or metal artefacts) to indicate an Urartian presence at the site and which might justify the claim that Al-Mina was an Urartian port.[36]

Sidney Smith[37] argued that Urartian supremacy over the cities of northern Syria began after 780 BC and continued until 743 BC, when the Assyrian king Tiglath-pileser III (745-

[30] A 8-3 I / UKN 127 B1.

[31] In addition to the above arguments, it has been suggested that the expansion of the Urartian army around the Zagros Mountain and beyond in the 8th century BC threatened the supply of horses to the Assyrian army, (Dyson 1965: 203; Levine 1977b: 183; Saggs 1988: 108) and it has been suggested as one of the reasons behind Assyrian economic and military decline in this period. Furthermore, as Louis D. Levine acknowledged there is no direct archaeological and textual evidence regarding this proposal, rather he emphasises the Zagros Mountains region's rich mineral resources and other commodities such as timber, dyes, tree gums, salt from Lake Urmia and access to lapis lazuli from central Asia (Levine 1977b: 183).

[32] For the role of Carchemish as a trading centre in the first millennium BC, see Winter (1983: 177-197) in which she emphasises the importance of its location (close to land routes and the Euphrates River) and easy access to the rich metal sources of Taurus and Ergani as well as Maden.

[33] Levine 1977b: 173.

[34] Saggs 1988: 100.

[35] The site of Al-Mina was excavated by Leonard Woolley in 1936 and considered to be an early Greek trading colony. The site is close to the Orontes River in the modern Turkish province of Hatay, for further detail see Boardman (1990: 169-190).

[36] Smith 1942; Maxwell-Hyslop 1956; Barnett 1956, 1984.

[37] Smith 1942: 92.

727 BC) ended Urartian dominance over Qumaha, Militia, Hama, and Bit-Agusi.[38] Urartian texts from the reign of Minua[39] and Argišti I[40] reveal that both kings campaigned in the eastern parts of the Euphrates River basin, in the Elazığ Plain, but not beyond it.[41] Sarduri II, however, states in the Surb Pogos *stele* and in the Habibuşağı/Kömürhan (İzolu) inscriptions that for the first time he passed the Euphrates and seized the crossing at Tumeški.[42] Sarduri also received tribute from the kingdom of Qumaha.[43] But there is no specific evidence -either textual or archaeological - which might suggest that the Urartians had any influence or campaigned against, and received tribute from city states such as Carchemish, Gurgum (Maraş), Que (Cilicia) Unqi (Amuq), Hama and Bit-Agusi. However, Gurgum, Militia and Qumaha are known to have joined in the Urartian – Arpad alliance in 743 BC, which fought against the Assyrian king Tiglath-pileser III.[44] The period between the appearance of the Urartians in the Elazığ Plain and their subsequent defeat by Tiglath-pileser in Arpad, is less than 40 years. Thus even if the Urartian kingdom had any influence or control over north Syria and south-eastern city states of Anatolia this would have been short-lived. It is clear from the archaeological and textual evidence that throughout the 8th century BC the Urartian boundaries in south-western Anatolian and northern Syria were limited by the Euphrates River, and that beyond this point there are no Urartian remains which might indicate their presence in this region. Furthermore, archaeological remains from the eastern parts of the Euphrates River basin indicate that the Urartian kingdom built military posts at sites such as Habibuşağı (İzolu/Kömürhan), Baskil/Kaleköy, and Maltepe[45] to keep the Elazığ region under their control. There are no archaeological remains relating to Urartian occupation beyond the Euphrates River, and it therefore appears to be the case that the Urartu kingdom was never established beyond Malatya.[46]

Overall historical texts and archaeological remains indicate that the Urartians controlled neither the southern or northern routes.[47] Tiglath-pileser III re-established control over the

[38] See ARAB I 769, 785, 813, 797 for Tiglath-pileser III's military campaign against the Neo-Hittites and Urartu.
[39] A 5-5.
[40] A 8-3 II.
[41] It should be point out that it was considered that Argišti I (around 780 BC) extracted tribute from the king of Tabal, Tuatti, in A 8-3 II lines 15-16, which translates as 'the land of the son(s) of Tuate'. See Weeden (2010: 40-41) for the relevant discussion.
[42] A 9-1 Vo, A 9-4.
[43] A 9-3 IV 52-56 / UKN 155 E.
[44] ARAB I 797, 769.
[45] Sevin 1986; 1987; 1988.
[46] Muscarella 1992: 22 no. 27; Salvini 2006a: 190.
[47] Although it is hard to associate it with Urartian commercial activities, nevertheless it should be mentioned that a section of road (Figure 21) that is believed to be remain from the Urartian kingdom has been reported by

southern route, and his successor Sargon II's eighth campaign ended the period of Urartian control in the Zagros Mountains.[48]

II.4.3. Archaeological and Textual Evidence

In this section I will assess the available textual and archaeological sources and their possible indication for trade activities in the Urartian kingdom. There is no textual evidence from the Urartian kingdom about trade activities, but the administrative letters of the Neo-Assyrian kingdom provide invaluable information about the economic activities of the Urartians and their trading activates. Therefore in this section the Neo-Assyrian kingdom administrative letters will be synchronized for their possible implication on the Urartian merchants and possible trade goods. Secondly, archaeological remains in particular bronze artefacts and the relevant contemporary literature as well as foreign seals and seal impressions from Urartian sites will be discussed.

Although we lack any direct textual evidence from the Urartian kingdom that might indicate that it engaged in the trade of commodities, the letter of Aššur-rešuwa, who was the Assyrian royal delegate in Kumme[49] tells us about the movement of goods between the Assyrian and Urartian states by Kummean merchants.[50] In this letter, Aššur-rešuwa asked the Assyrian authorities to arrest the merchants.[51] The trade network mentioned in the Aššur-rešuwa letter was operated by six Kummeans, with two of them under the jurisdiction of the Kummean king Arije, and the other four under the Arisa (probably king Arije's son and the crown prince).[52] The letter indicates that Kummean smugglers bought luxury goods in the Assyrian cities of Calah and Nineveh and took them to Urartian territory where they were

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Veli Sevin (1988: 547-551) around the Bingöl Mountains. The remains of this road section illustrate the importance of the Elazığ Plain (Alzi) for the Urartian state, in term of its resources and communication with the trade centres of the eastern Mediterranean.

[48] Saggs (1988: 108) suggests that one of the reasons behind attached of Sargon II was perhaps to regain the control of this trade route.

[49] Kumme was situated north-west of Ulluba (which is located modern east of Cizre Plain) (Parker 2001: 89-94).

[50] '*Burê, Wziye, Gamalu, and Ehiye, in all four (*men*) under Ariaṣâ; Kumayu and Biriaun, in all two (*men*) under Ariye –these six Kummeans go and stay in Bususu, a town in the domain of the chief cupbearer.*
*The inhabitants of Bususu purchase Assyrian luxury items in Calah and Nineveh and sell them to these Kummeans. These Kummeans enter the town Aira of the house of Kaqqadanu, ruled by Saniye, a city lord subject to the governor of Calah, and bring (*the merchandise*) from there to Urartu. From over there they import luxury items here.*
The king, my lord, should write to [Sani]ye, the city lord, that he should arrest these Kummeans and send them to king, my lord.
*The king, my lord, should ask them where they buy these valuables, where they sell them, who receives them from their hands, and who lets them pass (*the border*).*
These Kummeans are runaways; they have run away from Kumme' (SAA V: 100).

[51] Lanfranchi and Parpola 1990: XXV.

[52] Parker 2001: 90.

exchanged them for other precious goods to be sold in the Assyrian cities. It seems that the Urartians did not directly engage with Assyrian traders but, rather, that intermediaries played this vital function. Of course, we do not know the exact extent of this trade and, most importantly, who on the Urartian side engaged with the traders and exactly what they were trading. Nonetheless, it is an important indication that despite the on-going struggle between Assyria and Urartu there was at least some movement of commodities between the two states.

However among the most important items associated with Urartu are the so-called bronze 'siren' and 'bulls' heads' cauldrons. It has been argued that they were manufactured in Urartu by Urartian artisans and then exported to the west via the trade routes mentioned above. The former show male or female siren[53] busts rising from a circle with bird's wings and tails[54] and the latter take the form of bulls' heads attachments, fixed to cauldrons with rivets. The bulls have long horns that sweep forwards and upwards by a collar-like ruff passing from ear to ear.[55] Maurits N.van Loon[56] pointed out that the sirens found in Urartu have smiling mouths set deep between rounded cheeks, and that they have pointed chins. It should be stressed that most of the arguments regarding the siren attachments are based on an example that was believed to have been found at the site of Toprakkale. However, as Ralf-Bernhard Wartke[57] rightly pointed out, this cauldron attachment is not actually from the Toprakkale excavation[58] and was in fact purchased in London from an antiquities dealer, and any arguments based on this cauldron's attachments are no longer valid.[59] Ultimately, the real provenance of the so-called Toprakkale siren attachment is not certain. Another siren attachment associated with Urartu is found at the site of Wrecham (Alişar)[60] in north-western Iran, on the Urartian periphery, but it cannot be taken as proof that these attachments were made in Urartu itself.[61] Despite the evidence against an Urartian centre of production for these types of siren, the view of them as being of Urartian origin is still perpetuated by some scholars.

Winged bull attachments on cauldrons were used as handles and such cauldrons have been found at various sites in the Near East and in Urartian territory. For example, at the sites

[53] van Loon 1966:Pl. XXIII; 1977:Pl. III, a, b.
[54]For a detailed discussion see van Loon 1966: 102-112, 1977: 229-231; Muscarella 1962: 317-329, 1992: 1-45; Herrmann 1966; Maxwell-Hyslop 1956: 150-167; Azarpay 1968: 54-55; Smith 1942; Barnett 1950: 39.
[55] van Loon 1966: 104.
[56] van Loon 1977: 229-230, Pl. a, b.
[57] Wartke 1985: 87-100.
[58] The bronze cauldron attachment is in the Berlin *Vorderasiatisches Museum*.
[59] See for details Wartke 1985: 87-100.
[60] Piotrovsky 1969: Figs. 103, 104-105.
[61] See Muscarella 1992: 22, no. 26.

of Altıntepe[62], Toprakkale[63] and Guschi[64] and as mentioned above, an example with a siren attachment came from the site of Wrecham.[65] Oscar W. Muscarella[66] distinguished the Urartian group from the Near Eastern group; according to him there are distinctive stylistic and manufacturing differences evident between the two, including a separate casting of the head and the wing tail unit.[67] Muscarella[68] and van Loon[69] argued that no Urartian bull's head cauldrons have ever been excavated outside Urartian territory.[70]

However, it is important to stress that some of the arguments regarding bronze artefacts have been influenced by the Assyrian king Sargon II's famous eighth campaign against Urartu, which ended with the defeat of Urartian king Rusa I, and the subsequent sacking of the Haldi temple at Mušašir. One should bear in mind that Mušašir was not just sacred to the Urartians but it was for the whole region, and can be seen to have been the equivalent of Delphi or Delos in ancient Greece. Therefore, the Haldi temple at Mušašir probably received all kinds of gifts from other Near Eastern regions, and thus the objects taken from Haldi's temple probably belonged to other states and not just to Urartu. In addition to Sargon's sacking of Mušašir, excavation at the sites of Toprakkale and Karmir-Blur have produced enormous quantities of bronze artefacts that would appear to have influenced some of these arguments.[71]

However, one of the most important issues regarding Urartian merchants' involvement in trade is what were they getting in returning for the metal artefacts that they were trading? With regard to their trade with the Greek colonies (see II.4.2), and particularly the Black Sea region, Slattery argued that there is almost no archaeological and textual evidence indicating that either of these regions were in contact.[72] The lack of any substantial remains from Urartian sites as well as from the Black Sea sites themselves, such as Sinope[73] and Trebizond,

[62] Barnett and Gökçe 1953: 121-129 Pl. XIII, XIV, XIX-I.
[63] Barnett 1950: XVI.
[64] Piotrovsky 1967: 37-39, Figs. 23-24; Hanfmann 1956: 205-213.
[65] Muscarella 1992.
[66] Muscarella 1992: 25.
[67] However, there is a tendency among the scholars of Near East to favour a north Syrian origin for these metal artefacts as opposed to the Urartu region such as Qumaha, Tabal and Carchemish (Winter 1983: 188-190; Hermann 1966; Muscarella 1992: 16-45 and Wartke 1985: 87-100).
[68] Muscarella 1992: 25.
[69] Von Loon 1966: 106.
[70]See for detail of discussion; van Loon 1966: 103-110; Muscarella 1992: 25-35; Piotrovsky 1967 36-43; Amandry 1956: 239-261; Hanfmann 1956: 205-213.
[71] Excavations at the site of Toprakkale, Karmir-Blur, and Altıntepe have recovered many bronze metal artefacts such as cauldrons, helmets, shields, horse trappings, belts, bowls, and this subsequently led some scholars to think of Urartu as a major 'metalworking centre' (Merhav 1991a; Seidl 1988: 169).
[72] Slattery 1987.
[73] See Akurgal and Budde (1956) for the excavation of Sinope.

suggests there might never been any contact at all between these regions.[74] In terms of metal production, it is hard to assess the amount that was produced and distributed, in any period by way of surplus, over and above the needs of minimum subsistence in the absence of substantial archaeological and textual evidence by Urartians. The find of large numbers of metal objects in Urartian sites and ore sources for both iron and copper mining certainly indicate that the Urartians had active mining industries, perhaps organised by central government in major centres (Karmir-Blur, Çavuştepe, Bastam etc.) and built by the state for its own needs. However the lack of tin ore deposits in Urartian territory and its abundant use in bronze production suggests that tin might have been imported into Urartu, perhaps from eastern Iran or even Afghanistan (see II.3.2 for further detailed discussion of tin).

But there are some foreign objects and artefacts from excavated Urartian sites such as foreign seals and seal impressions[75] from Karmir-Blur, Erebuni and Bastam, as well as ivory (Altıntepe, Toprakkale and Karmir-Blur) and important objects (decorated bronze harness, bridles with bone cheek-pieces, antler, iron swords and daggers etc.)[76] from Karmir-Blur, which illustrate cultural connections between Urartian centres in the Araxes valley and the Scythian tribes who occupied the northern regions of the Caucasia and the banks of the Dnieper. Furthermore, the discovery of an Egyptian amulet and the upper part of a faience vessel in the shape of a female figure at Karmir-Blur[77] indicate that prestige goods were exchanged.

Ivory was another highly valued commodity and objects of ivory and tusks were frequently taken as booty or received in tribute by Assyrian kings.[78] It is interesting that such a valuable commodity was absent from any Urartian inscription. However the discovery of limited numbers of ivory artefacts at the Urartian sites of Altıntepe[79], Toprakkale[80] and Karmir-Blur[81] suggests (1) that ivory was taken as booty or received in tribute, (2) that ivory may have formed part of a set of diplomatic exchange gifts[82] or (3) that ivory may have been

[74] The survey of Kemalettin Köroğlu (Köroğlu 2001: 717-741) in the areas north of the Araxes and west of the Arpaçay have failed to uncover any archaeological evidence for the presence of Urartu in the area despite the existence of Urartian royal inscriptions (Sarıkamış A 8-6, Guliçan A 8-9, Kanlıca/Marmashen A 8-10 and Hanak-Kars A 8-7) that mention military activities in that region.
[75] Hodjash 2000: 151-154; Ayvazian 2006.
[76] Piotrovsky 1970: 60.
[77] Piotrovsky 1970: 60.
[78] For example see Assurnasirpal II ARAB I 475-477; Shalmanesar III ARAB I 585, 593 and Sargon II ARAB II 45, 172-173.
[79] For Altıntepe ivories from temple area and tombs see Özgüç (1969: 38-56).
[80] See for Toprakkale ivories Barnett (1950: Pl. XIV 2, XIV 2, XII 4, 5, 6-12).
[81] For Karmir-Blur see Piotrovsky (1967: 58, Fig. 39, 40, 42, 43).
[82] There are indications of gift exchange or reciprocal exchange between Urartian, Šubrian and Assyrian kings. For example, a letter written to the Assyrian king Sargon II by Ša-Aššur-dubbu, the governor of the Assyrian

imported; even if these artefacts were produced locally within the Urartian territory, the raw material still had to be imported.[83] Some archaeologists have claimed that there is strong influence of a north Syrian ivory carving tradition on Urartian ivory artefacts[84] However, as ivory artefacts are both scant in number, and recovered from only three sites, it is hard to reach any definitive conclusion about whether these artefacts were imported in finished form or produced at these sites from imported raw material. The lack of any recognizable ivory workshop area from any of the above sites further complicates the possibility of any conclusive assessment.

As pointed out above, several foreign cylinder seals and seal impressions (generally showing similar features to Neo-Assyrian and Babylonian examples) have been discovered on a number of Urartian sites (Karmir-Blur, Arinberd, and Bastam)[85] and a surface survey found of an Urartian[86] seal at the site of Tell al Ma'az[87], which is an ancient trade centre in Syria. The existence of foreign seals and seal impressions on Urartian sites could be interpreted as the Urartian state taxing the goods that were brought through its territory and probably providing safe passage for merchants.

However, Ayvazian[88] argued that some of the 'foreign' cylinder seals may have been Urartian imitations of Assyrian or Babylonian examples. Furthermore, Ayvazian[89] suggested that during the reign of Rusa son of Argišti, new forms of glyptics made their way into Urartu such as scaraboid seals and conical seals that show similarities to Levantine examples, among other items of trade. However, there is a wide range of motifs, from hunting scenes (a man wrestling with a mythological winged creature, a man shooting with an arrow) to goats flanking a tree, which are sacred symbols in these foreign types of seals and seal impressions. Ayvazian[90] categorises Urartian seals and seal impressions according to their style, iconography and functions.[91] Firstly, she identifies four main types of seal morphologically, according to their shapes, into: cylinders, stamp-cylinders, faceted seals and stamp seals. She

province of Tušhan, mentions that the Urartian king Argišti II is demanding back 'the jewellery that my father and I have given to you' from Hu-Tešub, the king of Šubria (SAA V 31). The letter is an indication of the high value of gifts exchanged between dynasts.

[83] Barnett and Davies 1975: 163-168; Moorey 1994: 116-117.

[84] Van Loon 1966: 133; Özgüç 1969: 85 no. 71; Akurgal 1968: 75; Çilingiroğlu 1997: 148.

[85] Piotrovsky 1970: 60; Hodjash 2000: 151-154, Figs. 1-3; Ayvazian 2006.

[86] Most of the known Urartian seal and seal impressions are from sites that were founded by Rusa III, and therefore to be dated to 7th century BC. Ayvazian (2006: 14-15) argued that Rusa son of Argišti introduced a classification of seal to help towards centralisation and better administrative control.

[87] Oates and Oates 1988: 217-218.

[88] Ayvazian 2006: 55.

[89] Ayvazian 2006: 15.

[90] Ayvazian 2006:16.

[91] See also Piotrovsky (1967: 70), Seidl (1979: 137-149) of Bastam and Abay (2001: 321-355) of Ayanis classification of seals and seal impressions.

then further classifies them into seven groups in terms of their function and iconography, and suggests the existence of private seals that belonging to entrepreneurs is based on surface survey finds from Tell al Ma'az which portrays a scene of worshipper, sacred tree and is inscribed with a script similar to Aramaic that cannot be read.[92] Whether the Urartian seal found at Tell al Ma'az belonged to a private merchant or an officer in the service of crown is hard to tell.[93]

II.4.4. Conclusion

Although some Urartian military activities were seen as a way of acquiring goods that were not available directly to the state by means of tribute and taxation, trade probably provided a way of obtaining goods that might not have been available by other means (such as tin, Egyptian blue, ivory, horses, etc.).

The archaeological and textual evidence reviewed above suggests that there was indeed small-scale exchange between Urartian and other Near Eastern merchants as indicated by Aššur-rešuwa letter, seals and seals impressions as well as other small finds. Urartian cuneiform inscriptions lack any detail about the socio-economic structure of the state, and therefore it is hard to know who was the beneficiary of this trade and what overall impact it had on the kingdom's economy.

[92] Oates and Oates 1988:217-218, fig. 1-2.
[93] Ayvazian 2006: 50.

II.5. CRAFTS

II.5.1. Introduction

The aims of this chapter are to provide a review of the evidence for the production of secondary commodities. Craftsman plays important part in many spheres such as social, economic, technological and aesthetic life of in any society. Therefore by studying the secondary products that produced by Urartian craftsmen would help us to understand the role of those products in Urartian society and the status of craftsmen. By doing so I would focus on three case studies such as textile, carpentry and pottery, because each one illustrates a different set of issues and it would not be possible to provide a detailed survey of all of the crafts production that undertaken by Urartians here.

While the archaeological evidence for pottery and metals is abundant, very rarely do we find examples of textile and furniture due to their perishable nature. Since we have great deal of archaeological and textual evidence regarding metallurgy this aspect of Urartian craftsmanship is discussed in a separate chapter (see II.3) and it is not included here. Firstly, I will evaluate the evidence for the manufacture and use of textiles by studying the archaeological, iconographic and textual material that has been found on Urartian sites. Like textile remains, wooden artefacts are likewise rarely found on archaeological sites, but nevertheless a number of sites in eastern Anatolia and Armenia have yielded fragments of furniture and decorative bronze fittings that had once been attached to the furniture (e.g. at Altıntepe and Adilcevaz/Kef Kalesi). These are important discoveries, as they have allow us to examine the wood-working methods of Urartian carpenters. However, unlike textile and wood archaeological excavations and surveys of Urartian period citadels, settlements and cemeteries have uncovered large quantities of pottery in various shapes and functions such as bowls, vessels, plates, jars, pitchers and *pithoi* which allow us to exam pottery production.

II.5.2.Textiles

Textiles were used for a variety of purposes throughout the ancient Near East, ranging from clothing, shelters, interior furnishings, for the display of power in royal ceremonies, and as rope used for securing, binding and lifting items.[1] The manufacture of textiles was one of the most labour-intensive and specialised occupations and therefore, by studying its

[1] Bier 1995: 1567-1570.

production we can learn about the culture, technology, and economy of ancient societies. The principal raw materials for textiles in the ancient Near East were sheep wool and flax (*Linum usitatissimum*), which was the first material to be used for weaving before the introduction of cotton and silk in antiquity. [2] As such, we should expect to see wool and flax-based textiles in Urartian society.

The hilly and mountainous countryside of the Urartian territories provided herdsmen with a good environment for rearing their goats and sheep (see II.2). Iconographic evidence indicates that unsurprisingly, wool was the principal raw material used by Urartian weavers.[3] Due to the perishable nature of textiles, like any other organic material in archaeological contexts, textile remains are rarely recovered from archaeological sites. Despite the rare recovery of textiles from archaeological sites, the analysis of the rare examples that do survive can provide information about the nature of the materials used, production techniques, function, and even the socio-economic role of textiles in ancient societies. For example, the earliest textiles from Çatalhöyük in central Anatolia[4], Jarmo in northern Iraq[5], and Shahr-i Sokhta in eastern Iran[6] have broadened our knowledge of the materials and techniques involved in the production of textiles in early prehistoric societies of the ancient Near East.

Unfortunately, as mentioned above, the preservation of actual textiles in archaeological contexts is very rare. But, there is textual, archaeological and iconographic, evidence which undoubtedly helps us in our understanding of textile production and the important role that textiles played in Urartian society.

II.5.2.1. Archaeological Remains

Textiles are subject to rapid decomposition in archaeological contexts like any other perishable organic material. Their occasional preservation is due to a combination of uncommon circumstances, often involving a dry climate and acidic micro-environments.[7] Textiles can also be preserved through burning, which leads to the creation of charred

[2] Wild 2003: 40; Gleba 2011: 13.
[3] Shearing wool took place once a year, usually in spring or early summer. In Anatolia, the fleece is shorn by hand with scissors, then washed and beaten with sticks to separate the fibres until the wool is clean, and ready to be turned into textiles (Personal observation in the village of Çiçek in Elbistan).
[4] Burnham 1965: 169-174.
[5] Adovasio 1975: 223-230.
[6] Good 1999.
[7] Gleba 2011: 6-9; Wild 1988: 7-13.

samples such as those found at Çatalhöyük[8], Hasanlu[9] and Gordion.[10] However, whatever the condition of preservation, the recovery of any textile depends on the methodology and conservation procedures used during archaeological excavations.

Despite the large-scale excavations at Urartian sites in eastern Turkey, north-west Iran and Armenia, only a few textile remains have been recovered from the sites of Karmir-Blur, Ayanis, Toprakkale[11] and Patnos. Excavations at Karmir-Blur uncovered a carbonised piece of cloth which had been woven into a lozenge pattern. In addition, some patterned textile remains, including a tunic skirt of wool lined with a coarse material, also survived.[12] Although excavations at Karmir-Blur have yielded only carbonised textile remains, analysis of them revealed a woven pattern of geometric ornamentation and some studs still attached to the fragments. At Patnos, one of the burials featured a couple who were buried in the crouched position**,** with iron agricultural tools, bronze cups, and various textile fragments and a bronze belt were also found in their grave**.**[13] Excavations in storage Room 6 at Ayanis also uncovered of a piece of cloth and it has been plausibly argued that such cloths were tied over the mouths of *pithoi* vessels and then sealed with a *bulla*.[14]

At Hasanlu in north-west Iran, excavations of destruction level IVB[15] (*c.* 800 BC) recovered numerous textiles that had been charred in the fire that destroyed the site. Analysis of these fragments identified loom-woven textiles, balls of yarn, rope, basketry, string and unprocessed plant materials.[16] Nancy Love's analysis identified simple and compound weave structures and showed that the textiles used at Hasanlu were made from wool, goat hair, bast fibre, animal fibres and other unidentified materials. Maude de Schauensee[17] has suggested that the textiles at Hasanlu were used for clothing, wall hangings, and furniture coverings. Textiles were also recovered in association with skeletons, and in some cases, they seem to have lain on top of one another in layers, which indicates that the textiles were perhaps stored on upper floors. However, no evidence of textile production was reported from Hasanlu, in stark contrast to the site of Çavuştepe, where a workshop and tools used in the production of textiles (e.g. spindle whorls and loom weights) revealed both the scale and techniques of

[8] Burnham 1965: 169-174.
[9] de Schauensee 2011b: 57-86.
[10] Bellinger 1962: 5-33.
[11] Lehmann-Haupt (1931: 967) mentions fragments of silks among the finds of the Toprakkale excavation.
[12] Berchovskaja 1955: 67-71, Figs. 46, 47, 48; Piotrovsky 1969: 156.
[13] Öğün 1974: 45; Müftüoğlu 1975: 35-38.
[14] Çilingiroğlu 2001: 69 Fig. 2.
[15] de Schauensee 2011b: 57-86.
[16] 75 samples of these charred fragments were analysed by Nancy Love (Love 2011: 43).
[17] de Schauensee 2011b: 57-86.

textile production. At the site of Çavuştepe in Spired Citadel's rooms VI, VII and X were considered as workshops of weavers and wool producers as the recovery of spindles made of alabaster[18] and stone[19] as well as bone implements pieces of a loom suggest.[20] At Karmir-Blur[21] near the north wall of Room 28 there were about 30 clay loom weights, and likewise, at Ayanis in Room 8[22] 14 loom weights were found in front of the west wall. The discoveries from these sites clearly show that Urartian weavers used similar techniques and materials.

II.5.2.2. Written Evidence for Textiles

The written sources that mention textiles found in the ancient Near East tend to be administrative texts related to either temple or palace activities. These texts provide us with details on the organisation of materials and the production of textiles. For example, the royal archives of Ebla, which date to the third millennium BC, contain references to textile production and how textiles were a trade commodity throughout Syria and Mesopotamia.[23] However, the best textual evidence relating to textiles comes from the Old Assyrian traders' centre of Kültepe (Kaneš), located 20 km north-east of Kayseri in central Anatolia, which dates from the 19th to 18th centuries BC. Although excavations at the site produced no textile remains, the archive uncovered contains numerous references to textiles.[24] These cuneiform tablets reveal that Assyrian traders imported vast quantities of woollen textiles from Aššur into Anatolia, and mention the purchase, packing, transportation and sale of textiles along with the various taxes levied in Anatolia on Assyrian traders.

However, given the lack of administrative records, or archives relating to trade activities similar to the documents from Kültepe and Ebla, there are very few references to textile manufacture or its use in Urartian inscriptions and tablets. A tablet from Karmir-Blur (CT Kb-10/UPD 10) states that a number of woollen cloths (*TÚG*), cattle skins (*KUŠ GU_4*), sheepskins (*KUŠ ÚZ*) and goatskins (*KUŠ šú-še*) were sent to the city of Teišebai.[25] It is interesting that the tablet notes animal skins among the woollen cloths and it is likely that

[18] Erzen 1988: PI. XXXV h; Fig. 23 /6.
[19] Erzen 1988: PI. XXXV g.
[20] Erzen 1988: PI. XXXVI f. g, h, i; Fig. 24 /1-4
[21] Barnett 1959: 7.
[22] Erdem and Çilingiroğlu 2010: 157.
[23] Biga 2010: 146-172.
[24] Michel and Veenhof 2010.
[25] Salvini states that the country of ''Aza' in this tablet is used to distinguish the newly established city of Teišebai (Karmir-Blur) from the one the south coast of Lake Sevan 'Teišeba=i URU' in Tsovinar (A 10-2 r. 18).

animal skins were used as carpets, rugs or even for clothing. However it is not known if this material was part of tax or tribute.[26]

Sarduri II stated that among the tribute he received from Kuštašpili, the king of Qumaha (A 9-3 IV), there were (*3 LIM TÚG*^{ME}) 3,000 garments. This is the only reference to textiles either as tribute or booty in Urartian inscriptions. Further textual evidence regarding textiles in Urartu is to be found among the items that were plundered by Sargon II from the palace of Mušašir were '*...130 brightly multi-colour (woollen) garments, purple linen garments, and wool for the scarlet garments of Urartu and Kirhi*'[27] and from the temple of Haldi 9 garments of gold which were decorated with gold rosettes and disks.[28] Also among the Neo-Assyrian administrative letters a cuneiform tablet from an Assyrian royal delegate in Kumme inform us about the repression of the revolt in the capital Tušpa against an Urartian king around the time of Sargon II's eighth campaign involving an individual known as Naragê who was chief tailor of Urartu (Assyrian *kāṣiru*).[29]

In addition to information concerning the use and movement of textiles, there is also a reference to weavers. In one of the tablets from Toprakkale (CT Tk-1/UPD 12) 68 (*^{SAL}GAD-ḫ-e)* weavers(!)[30] are mentioned among the other palace personnel (see III.5.5.2 for more detail). The presence of weavers among the palace staff at Toprakkale (^{m}Rusaḫinili ^{KUR}Qilbani=kai) reveals how important the task of weaving was, as the weavers are listed among the personnel who held positions of some status in Urartian society.

II.5.2.3. Representational Evidence

Iconographic materials have long been recognised as one of the most informative sources of information on material culture in the ancient Near East.[31] Textiles are illustrated on various materials including metalwork (bronze, gold and silver), stone reliefs, wall paintings, carved ivories and cylinder seals; providing information about when and how certain kinds of textiles were used and by whom. Gods, goddesses, kings, worshippers, soldiers, women, and even genii are depicted with richly decorated garments. Urartian gods

[26] '*^{D}IM! URU-e ^{m}'a-za-a ^{KUR}e-ba<-ni> 26 KUŠ GU$_4$; ZAG ŠI.AB 12: TÚG UDU 14: UDU 1 ME 60 30 8 ZAG.ŠI 25 TÚG UDU 1 ME 50 10 2 KUŠ šú-še 16 KUŠ! ÚZ*' (CT Kb-10 / UPD 10).
[27] ARAB II 172.
[28] '*9 vestments, the garments of his divine majesty, whose embroidery (edges) was of gold, and whose ear was of gold, whose shibtu were held by murdû; 7 shusuda of nigsud-wood, which were full of (covered with) stars, with a whip of silver, whose kiblu and inlay were of gold*' ARAB II 173.
[29] SAA V 91: 3.
[30] Diakonoff (1989: 99) states that 68 weavers marked with the 'feminine' determinative, and therefore argued that weavers were possibly eunuchs(?).
[31] Canby 1971: 31-53; Bier 1995: 1581-1585.

are usually shown wearing long, often elaborately decorated garments and horned headdresses, although on shield fragments found at the Yukarı Anzaf the god Haldi is shown wearing a short-sleeved tunic (Figures 70 and 71a). Under the tunic he wears a kilt with a fringed border that reaches his knees with a belt across his chest.[32] In contrast, the other gods on the shield (i.e. Teišeba and Šuini) are shown wearing ankle length fringed robes (Figure 71 b-c). These robes also feature decorations consisting of horizontal lines and rows of circles.[33] Both gods also wear short kilts underneath their overcoats which are similarly decorated. Like Haldi, Teišeba and Šuini also wear shoes or boots that reach above their ankles.

Although the Yukarı Anzaf shield depicts Urartian gods with short-sleeved tunics and ankle length fringed robes, the Adilcevaz stone relief depicts a deity with an elaborately decorated garment facing left towards two triple spearheads on the back of a bull.[34] The garment is edged with multiple bands of chevrons and between these, bands of rosettes are illustrated. Interestingly, the bull seems to have a rug with two large tassels covering its back and this garment is covered with large concentric square plaques which are accompanied by small rosettes.

Excavations at Kef Kalesi uncovered six stone blocks, each of which features a depiction of a winged genie wearing short-sleeved robes that hangs down to their ankles. These *genii* stand on the backs of the lions with their right feet planted on the heads of the lions (Figure 65).[35] Their garments are covered with large rosettes within concentric square plaques, and a row of solid dots decorate their edges. In general, the repetitive patterns common in Urartian textiles consist mostly of floral or geometric designs, with a special emphasis on rosettes. Similar designs can be seen on Assyrian and Babylonian depictions dating to the first millennium BC and Oppenheim considered these to represent metal appliqués.[36] The iconographic evidence suggests that richly decorated clothes were worn by kings or priest during cultic ceremonies.

The characteristic garments worn by the Neo-Assyrian kings in numerous reliefs are covered with rows of disks or rosettes in varying arrangements. Oppenheim[37] believed that metal appliqué on clothing was common in the ancient Near East. Golden rosettes perforated on their backs or edges with small holes were probably sewn onto fabric in order to enhance

[32] Belli 1999a: 37-41, Fig. 18.
[33] Belli 1999a: Figs. 19-30.
[34] Burney and Lawson 1958: 211-217, Figs. 1, 2.
[35] Bilgiç and Öğün 1964: 101 Pl. 2b; Bilgiç and Öğün 1965: Pl. II, X, XI.
[36] Oppenheim 1949: 172-193.
[37] Oppenhiem 1949: 175-179.

the power, prestige and magical effectiveness of the images.[38] Golden ornaments attached to garments seem to have been restricted to cultic and royal ceremonies. For example, as mentioned above, the inventory of the Haldi temple of Mušašir[39] contain garments with rows of golden rosettes. The discovery of gold and silver buttons from Altıntepe in tomb III in Room 2, where two sarcophagi were found (dating to the 8th-7th centuries BC) seems to confirm Sargon II's account of golden ornaments attached to garments.[40] One of the Altıntepe burials had been placed in front of the north-east wall and the other at the foot of the west wall.[41] The former belonged to a male and the latter a female and both individuals were buried in a semi-contracted position. Although no grave goods were found with the male, outside his coffin there were gold and silver buttons which the excavators suggest might have originally been sewn on to a garment that he had worn but which had long since decayed. In regard to the female, the excavators believed that she was buried in an elaborate dress, as her coffin contained a number of gold spangles and disc-shaped gold buttons decorated with granulated rosettes (Figure 75).[42] The circular buttons of gold (1.75 cm x 6 cm in diameter) with a curved surface were decorated with a central rosette and six petals rosettes surrounded with six repoussé circles and triangles.[43] The outer circles of buttons were decorated with a gold wire border in two continuous rows of grains. There were two small loops soldered on the back of the gold buttons in order to attach them to garments. There was also a bronze button from Kayalıdere which was similarly decorated in repoussé on the outer band and its centre was dotted by the use of granulation.[44] However unlike Altıntepe buttons, there was a central hole on this button.

At Ayanis, in the temple area, gold and bronze plated with gold rosettes were uncovered (Figure 76).[45] The rosettes had two or three small hooks on their backs, which indicates that they might have been sewn onto cloth or attached as buttons from their hooks. Similar rosettes were also found in Ayanis domestic structure Room 8 along with loom weights.[46] The Ayanis rosettes are nearly identical to rosettes etched along the lower edges of a garment on a bronze statuette found at Toprakkale (Figure 72). This statuette, dressed in a short-sleeved robe down to his knees and the figure seems to represent a king who holds a

[38] Oppenhiem 1949: 175-179.
[39] ARAB II 173.
[40] Özgüç 1969: 71.
[41] Özgüç 1969: Pl. XV, 1-2.
[42] Özgüç 1969: 69.
[43] Özgüç 1983: 33-34, Pl. XI a, b, c.
[44] Burney 1966: 78, Figs. 21, 14, Pl. XIa
[45] Sağlamtimur *et al*. 2001: 222, Pl. III, 24-37; Figs. 7-8.
[46] Çilingiroğlu 2011a: 352.

palmette-shaped fan in his right hand, with his left hand against his chest and a long narrow cloth clasped over his shoulder.[47] The figure also wears a crescent-shaped pectoral with five holes for inlay without rosette.

Garments were depicted in ivory, as well as in stone and metal. Most of the ivory figurines from Toprakkale and Altıntepe illustrate *genii* wearing both long and plain garments draped over their shoulders (Figure 69). One interesting exception is an eagle-headed *genie* from Toprakkale[48], who wears a long garment featuring jewelled bands and horizontal rows of fringes from the belt down, with a wavy fringe bordering the bottom of the garment. The Altıntepe eagle-headed *genii* (two complete and one fragment)[49], are dressed in long plain garments which form a 'v-shape' at the neck' with the fringes decorated with jewelled bands.

A gold medallion from Toprakkale (diameter 6.5 cm, 1 mm thick) shows a seated goddess and a female worshipper wearing long tunics and veils and nested square motifs are clearly noticeable on the two figures (Figure 74).[50] van Loon has suggested that large square plaques of gold (nested square motifs) might have been sewn onto these garments.[51] The seated figure or goddess seems to hold a blossom and wears bracelets and probably a belt decorated with a zig-zag pattern. Although the worshipper is not accompanied by any sacrificial animals, she wears a similar dress to the goddess with the exception of her veil being a little shorter, and her dress seems to drag behind her. In another example a bronze figurine from Darabey represented a seated female (deity?) in a long robe decorated with rosettes surrounded by squares wearing bead necklaces (Figure 73).[52] However, there are various representations of women wearing ankle length tunics on belts.[53] In one example seen in a banquet scene, two women squat on the floor before a weaver's loom[54], which strongly suggests that two figures were weavers. In the left hand of one of the two, there is a tool that is linked to the loom by a thin line, which is most likely a thread (Figure 78b). Below the loom is a basket that seems to hold the thread. The scene portrays weaving as a household activity and there is also seen of textile use on furniture such as cushions, pillows, blankets, carpets and rugs on the same belt (Figure 78a) (see II.5.4).

[47] The statuette is beardless and the top of the head is broken off, but the heavy curls on the shoulders are preserved. The statuette was considered to form part of a set of temple furniture and to represent a eunuch (Merhav 1991e: 171, Fig. 4).
[48] Barnett 1950: Pl. XV 1-2.
[49] Özgüç 1969: Pl. XXXII, 1-2; XXIII 1-2; XLIX 1; Figs. 36-37-38.
[50] van Loon 1966: 129 Pl. XXXII.
[51] van Loon 1966: 129.
[52] Piotrovsky 1967: 51 Fig. 33.
[53] Kellner 1991a: Pl. 258, 259, 260, 262, 263, 264, 265, 266, 269, 274, 279, 282.
[54] Kellner 1991a: Pl. 282.

There are also numerous representations of Urartian soldiers on various bronze artefacts that have provided information about how they were attired. In this respect, Urartian belts are particularly informative, as they show soldiers in battle. These portray Urartian soldiers with their helmets, quivers, bows and arrows, lances and shields and the soldiers are usually depicted wearing short-sleeved knee-length tunics.[55] Similarly, on the Balawat Gates of Shalmaneser III Urartian warriors are illustrated wearing short-sleeved tunics, wide belts and crested helmets.[56]

Urartian gods are often depicted wearing long, often elaborately decorated garments, horned headdresses and bracelets. The iconographic evidence seems to suggest that decorated clothes such as short-sleeved tunics and long robes were worn by kings or priest during cultic ceremonies. Furthermore, richly decorated clothes in royal or cultic contexts indicate the importance of decorative cloths as visible symbols of wealth and power in Urartian society.

II.5.3. Carpentry

Although the use of wood for interior decoration and furniture is widely attested in first millennium BC texts and reliefs from the Near East, actual wooden remains are rare on archaeological sites because of the perishable nature of wood. However, a limited number of Urartian sites in eastern Anatolia and Armenia have yielded the remains of furniture, often consisting of decorative bronze fittings that had once been attached to wooden frames. It is also fortunate that at a number of sites (e.g. Altıntepe and Kef Kalesi/Adilcevaz) excavators have recovered actual pieces of wooden furniture nearly intact, which have allowed us to examine the wood-working methods of Urartian carpenters.

Our sources of woodworking for the Urartian period are also confined to rare archaeological remains and the depiction of furniture on various bronze objects, which means that only limited information on Urartian woodworking can be gleaned. There is no textual evidence for Urartian furniture apart from that of the booty lists of Sargon II from the palace of Urzana and the Haldi temple at Mušašir. Among these lists are mentioned thrones and tables made of ivory, boxwood and ebony, as well as beds, chairs, and tables made from ivory and silver, and also various items of wooden furniture decorated with gold and silver.[57] The information provided by Sargon II is therefore limited to the naming of various types of furniture and the materials used in its manufacture and nothing is known about the shape, size

[55] Kellner 1991a: Pl. 1 Fig 8, Pl. 87 Fig. 441, Pl. 43 Fig. 172, Pl. 34-35 Fig. 117.
[56] King 1915 Pl. XXXVII, XXXVIII and XL.
[57] ARAB II 172-173.

and manufacture techniques used in furniture production. The Sargon lists also lack information about the use of bronze in furniture making, although archaeological discoveries have proved that bronze was commonly used for furniture-fittings or to make metal furniture such as tables, stands and candelabra.

Fortunately, there are archaeological remains and pictorial representations which allow us to examine the role of furniture in Urartian society as pictorial representations seen on metal objects such as votive plaques[58], belts[59], medallions[60] and pendants[61] offers considerable information about the shape and decoration of Urartian furniture (chairs, tables and thrones). However, it is still difficult to draw a clear picture of the techniques that were employed by Urartian carpenters. One of the belts published by Hans-Jörg Kellner is very informative in particular for portraying a banquet scene in which domestic furniture such as chairs, stools, beds and tables are illustrated.[62] In the centre of the scene a woman can be seen seated on a low armchair with a table in front of her and being served by female attendants. The scene shows that the central woman was being entertained with food, gifts, music and dancing outside a city wall with nine towers (Figure 78a). One of the distinctive features of chairs and stools depicted on this belt is that the legs either terminate in bull's hooves or leonine paws, which is a characteristic feature of Urartian furniture.

Excavations at the sites of Altıntepe[63], Kef Kalesi/Adilcevaz[64], Toprakkale, Karmir-Blur[65], and Kayalıdere[66] have uncovered various metal parts from furniture and actual pieces of wooden furniture. A great variety of bronze furniture fittings have also entered private collections and museums via illegal excavations; a group of bronze furniture fittings from Toprakkale is particularly noteworthy in this respect. The finds from Toprakkale include statuettes of hybrid creates, human figures, and divinities or *genii*, and were found in the late 19th century by local inhabitants in the temple area of Toprakkale. They have since been dispersed among museums and private collections around the world. It is widely believed that the furniture fitting from the site came from one or two thrones.[67] There have been various

[58] Kellner 1991d: 293, Pl. 6; Taşyürek 1973: 14, Fig. 4.
[59] Kellner 1991a: Pl. 66, 67, 68, 69, 70, 71; Figs. 256, 261, 162, 263, 269, 279, 282.
[60] van Loon 1966: 129 Pl. XXXII; Kellner 1991c: 165, Fig. 2.
[61] Merhav 1991e: 175, Fig. 15.
[62] Kellner 1991: Pl.70-71, Fig. 282.
[63] Özgüç 1969: 66-70.
[64] Işık 1986: Abb. 6, Taf. 10-12.
[65] Piotrovsky 1955: 61-63; Barnett and Watson 1952: 136, Fig. 5.
[66] Burney 1966: 97-110.
[67] Barnett 1950; Merhav 1991g: 254-255; Seidl 1996: 85-86.

attempts to assemble and reconstruct one of these thrones, and for example Barnett[68] reconstructed a footstool and a chair. Margarete Riemschneider[69] suggested that the remains belong to a smaller and larger throne, while Ursula Siedl[70] argued that they came from a footstool with leonine paws and a chair slightly different from that suggested by Barnett.

On the other hand, archaeological excavations at Altıntepe tombs I and III have unearthed the remains of several pieces of fine wooden furniture, including two stools with silver plated wooden legs, a well-preserved table made of wood, two tables of walnut wood, a large four-legged table of wood, a wooden couch, and the remains of several wooden stools, thrones, tables, and miscellaneous furniture fragments.[71] At Kef Kalesi/Adilcevaz in tomb I, slope H, there were the remains of three wooden tables: two of them partly preserved; only the legs were found which ended in bull's hooves. The third table was preserved intact and its legs ending in schematised animal feet. One of the round tables from Kef Kalesi/Adilcevaz had legs covered with a lozenge pattern and a zig-zag design[72] which shows similarities with designs seen on fragments of wooden objects from Altıntepe. Furthermore, excavations at Kayalıdere also uncovered numerous bronze furniture fragments or components.[73] There was also evidence of wooden furniture fragments as well as furniture fittings and ornaments from the Hasanlu burnt buildings located on the high mound level IVB (see Table 19 for the identified woods from Hasanlu period IVB *c*. 800 BC)[74] and analysis of their manufacture and decorations show similarities with both Assyrian and Urartian furniture making.[75]

The legs of tables, chairs and stools from Altıntepe, Kef Kalesi/Adilcevaz and Kayalıdere were usually enclosed in a bronze casing and fashioned like animals' legs; in particular bull's hooves and lions' paws (Figure 81).[76] There is also furniture with cylindrical and conical legs.[77] Furniture depictions on reliefs and actual furniture remains can be classified according to the number of legs: (I) tables with four legs, and (II) tables with three

[68] Barnett 1950: 43, Fig. 22.
[69] Riemschneider 1966: 98, Fig. 17.
[70] Seidl 1994: 67-84.
[71] Özgüç 1969: 66-70, Pl. XXI 2, 3, 4; XXII 1, Fig. 18; Pl. XIX 1-2, Pl. XXI 1, Pl. XX 1-2; Fig. 24, Pl. XXV 3, Fig. 24; Pl. XX 1-2.
[72] Işık 1986: Pl. 9, Figs. 4, 7.
[73] Burney 1966: Pl. XX, XXI, XXV, XIXb-XXIc.
[74] Harris 1989: 15.
[75] de Schauensee 2011a: 1-41.
[76] Özgüç 1969: 70, Pl. XXII 1-3 and Pl. XXIII 1-4; Işık 1986 Figs. 4, 7; Burney 1966: Fig. 20, no. 1-2, Pl. XIXb.
[77] Özgüç 1969: Pl. XXIV.

legs. Furniture with four-legs can be sub-divided into two main sub-groups (a) tables with legs crossed, and (b) tables with solitary legs.[78]

The chairs and stools recovered from Urartian sites, and in particular, Altıntepe tombs I and III, suggest that both chairs and stools were backless and reached a height of about 50 cm and had wooden legs encased with bronze. Rivka Merhav[79] has highlighted the similar decorative elements on the legs of the throne of the Assyrian king Assurnasirpal II (883-859 BC) and the chairs from Altıntepe tomb III.[80] All feature legs that narrow conically towards the bottom. This identification is compatible with Siedl's classification of Urartian furniture into two different categories.[81] Siedl argued that there was an indigenous style of furniture making in which the legs of furniture broaden towards bottom and another tradition in which Urartian craftsmen adapted the Assyrian tradition of the 9th century BC, whereby the legs narrowed conically towards the bottom.[82]

Although it is likely that most of the frameworks used in Urartian furniture were made of wood, as mentioned above, there are unfortunately few examples found on Urartian period sites. By contrast, there are numerous metal fittings from wooden furniture and it seems that bronze was particularly favoured for these fittings. Therefore, it is likely that Urartian carpenters were either working closely with metalworkers, or they themselves were producing and using the necessary metal components. Also, it should be pointed out that almost all of the furniture remains are from the citadels or tombs associated with Urartian royalty, and therefore, we might be dealing only with the product of an Urartian court style, which might not necessarily represent Urartian society as a whole.

Table 19. Identified woods from Hasanlu period IVB *c*. 800 BC (Harris 1989: 15)

Species	**Uses at Hasanlu**
Maple / *Acer*	Construction Beams, Furniture, Mace shaft, Small carved object
Box / *Buxus*	Furniture, Weapon shafts, Small carved object
Cedar / *Cedrus*	?
Hawthorne / *Crataegus*	Bowl
Cyprus / *Cypressus*	?
Spindle Tree / *Eronymus*	Sculptured head

[78] Işık 1986: 416.
[79] Merhav 1991g: 251, Figs. 3.1-3.2.
[80] Özgüç 1969: Pl. XIX; Merhav 1991g: 250, Fig. 3.2.
[81] Seidl 1996: 186.
[82] Seidl 1996: 186.

Ash / *Fraxinus*	Furniture
Walnut / *Juglans*	Furniture
Juniper / *Juniperus*	Small carved objects
Apple / Pear / *Malus* / *Pyrus*	Mace shaft
Plane Tree / *Platanus*	Small carved objects
Poplar / *Populus*	Columns, Furniture, Small carved objects
Almond / Peach / *Prunus*	Furniture
Elm / *Ulmus*	Furniture/Spear shaft

II.5.4. Pottery

Until recently, Urartian pottery studies were usually devoted to a single site or region[83] and were considered to only consist of painted and red wares.[84] However, archaeological excavations and surveys carried out in the last five decades at sites such as Ayanis, Çavuştepe, Yukarı Anzaf, Van/Altıntepe, Toprakkale, Van Kalesi and Kef Kalesi have shown the wide speared use of monochrome pottery throughout the Urartian kingdom. One of the most important sites excavated in recent years is Ayanis with its *in situ* finds, and pottery from here has been categorised in various groups according to their surface treatment and paste.[85] A detailed study of pottery from Altıntepe and north-west Iran (Bastam) also has been published.[86] However, unlike these two sites, excavations reports from other sites such as Çavuştepe, Yukarı Anzaf, Van Kalesi, Karmir-Blur, Kayalıdere also briefly mentions various types of pottery.

However, most of the pottery studies are usually concerned with surface treatment and the quality of the clay used and questions of manufacture and distribution were rarely, if ever, raised. All pottery that has been recovered from Urartian period sites is usually considered to be Urartian, and no local or regional variations taken into account. Although there is no textual evidence in Urartian records for potters or pottery production, at the west of Karmir-Blur a clay potter's wheel was excavated in a room called '1 (49)' together with an iron hoe for hacking up the clay in a complex consisting of five rooms.[87] In one of the room of this workshop '4 (49)' a heap of clay was also found.[88] The recovery of 1,036 one handled red

[83] For Ayanis see Derin (1999: 81-100) and Kozbe *et al.* (2001: 85-153), Bastam Kroll (1979a: 203-202, 1988: 165-173) and Altıntepe Emre (1969: 291-301).
[84] Osten 1952: 307-328; 1953: 329-354; van Loon 1966: 229-37.
[85] Kozbe *et al.* 2001: 85-153.
[86] Emre 1969: 291-301; Kroll 1979a: 203-202, 1988: 165-173.
[87] Piotrovsky 1952: Figs. 46-47.
[88] Piotrovsky 1952: 86; 1969: 139.

polished jugs arranged in five row, as well as 55 flat bowls, six large jars, nine beakers and 40 lamps at Karmir-Blur Room 29 is indicative of large-scale production.[89] The Karmir-Blur potter's workshop suggests that such production centres were located away from citadels or residential areas. The craft of pottery production requires kiln firing and of readily available raw materials (clay, fuel and water) which is best located away from residential areas. Large-scale production centres would probably leave kiln and associated waste in the archaeological record but simple household workshops would generally leave little or no archaeological traces. However, because of the limited excavation of Urartian period settlements and residential areas, pottery workshops have received little or no attention, despite the fact that large quantities of pottery have been found on almost every excavated Urartian site.

The Early Iron Age pottery tradition of 'grooved ware' - the horizontal grooves between the rim and the shoulder - with its characterized buff and pinkish brown paste is considered to have continued into the Urartian period in the Lake Van basin.[90] Similarly in Armenia throughout the 9th and 8th centuries BC during the early stages of Urartian expansion in the region the local pottery tradition – black burnished pottery (Etiuni or Lchashen-Metsamor) - co-exist with the typical red burnished Urartian pottery. However, at beginning of the first half of the 7th century BC a new pottery group formed through the intermingling of local and imported elements together with Urartian red polished wares.[91]

Urartian period pottery of wheel-made red polished ware is very distinctive, well made, and appears almost at every sites in Urartian territory.[92] Red burnished pottery usually appears as brown, red, and grey colours, and with fine clay with or without sand temper. Its high quality burnishing methods and thick slip application characterized and differentiated it from other pottery of this period. This type of pottery usually appears in the form of trefoil jugs, goblets, bowls and plates. It is considered to have appeared as a new tradition and was used by elites.[93] However, the recovery of red polished ware from excavated buildings at Ayanis Outer town also implies that all residents had access to the ware to varying degrees – a pattern which is also observed at the domestic areas at Karmir-Blur, Armavir and Bastam.[94]

Excavations at the Ayanis citadels and outer town have recovered a large collection of pottery: those from citadel represent only 7%, whereas those from the outer town comprise

[89] Barnett 1959: 12, Pl. IIb.
[90] Konyar 2005: 105-127.
[91] Avetistan and Bobokhyan 2012: 378.
[92] Kroll 1979a: 203-202, 1988: 165-173; Emre 1969: 291-301; Derin 1999: 81-100; Kozbe *et al.* 2001: 85-153; Erdem and Konyar 2011: 266-283.
[93] Erdem and Konyar 2011: 268.
[94] Kroll 1988: 165-167; Martirosyan 1974: 104-149.

4% of the total assemblage of red polished ware. Neutron activation analysis of red polished ware from sites such as Ayanis, Çavuştepe, Dilkaya, Karagündüz, Bastam, Kef Kalesi and Van/Altıntepe identified multiple production locales and long-distance movement of pottery from sites such as Kef Kalesi to Ayanis and from Bastam to Lake Van basin sites.[95]

Apart from red burnished pottery Aylin Ü. Erdem and Erkan Konyar[96] have classified Urartian pottery into pink-yellow red paste, buff-cream slipped and brown slipped according to surface treatment (slip colour, burnish), and the clay quality (firing techniques). The surface of pink-yellow red paste wares are slightly or moderately burnished and usually appear in the form of large storage vessels and small bowls, whereas buff-cream slipped wares are often not burnished or slightly burnished and commonly appear in the form of bowls and jars. Brown slipped pots are the common ware types at Ayanis and represent 75% of the total pottery assemblage, with large storage vessels, trefoil jugs, bowls and plates making up this assemblage.[97]

Some of the pottery (e.g. *pithoi*, jars, bowls and jugs) are frequently found *in situ* in archaeological excavations, and at Ayanis in particular, they feature cuneiform inscriptions, impressed and incised signs on their surfaces. For example, the storage facilities contained large vessels that were buried up to their bellies and were accompanied with small vessels which usually bore cuneiform inscriptions on their shoulder or pottery marks of various sizes and shapes (See II.1.7.2 for storage facilities). Small vessels were also decorated with motifs such as four-five segmented rosettes, clover marks, crescentic marks, figurative scenes, circular marks, trees, pitchfork tripod cups, and spear-heads. The Ayanis vessels suggest that they were usually impressed before the fabric was fired, while the clay was still moist, whereas the incised marks were mostly made after firing.

However, overall, it seems probable that red polished ware production was organised and controlled by the Urartian state. If this ware was indeed made under its supervision, then it is reasonable to assume the existence of the workshops which were responsible for its production. The variety of the pot marks and their relative rarity also indicates the existence of private local workshops within the Urartian kingdom along with those controlled by the state. As with other craftsmen at the Urartian court - most notably weavers - there may well have been potters of some status who were responsible for the production of those wares made under state control.

[95] Speakman *et al.* 2004: 119-127.
[96] Erdem and Konyar 2011: 266-267.
[97] Erdem and Konyar 2011: 267-275.

II.5.5. Conclusion

Although there is limited textual data on craftsmanship, archaeological and iconographic evidence reveals a range of economic activities undertaken by Urartian craftsmen. The Urartian state must have employed large numbers of craft workers, particularly weavers, smiths, potters, carpenters and stone masons, and there were also other specialists such as scribes and military personnel. There might have been independent craftsmen who were employed either by elites or the state and who moved around freely between urban areas, being paid in rations in return for work.[98] It is also likely that like contemporary Assyrian rulers, Urartian kings used prisoners and deportees in various building projects and as well as gathering of foreign artisans and craftsmen.[99]

The uniformity of red burnished pottery from almost all Urartian period sites indicates that its production was carefully organised and its production may have been under state control. Although the status of potters is not known, it is possible that they held a level of status in Urartian society.

Furthermore, archaeological remains and textual and representational evidence suggests that in the long and harsh winters of eastern Anatolia, Armenia and north-west Iran, wool was unsurprisingly the principal raw material for clothing, although leather and flax may also have been used. As the Toprakkale tablet also shows, weaving was an important occupation in Urartu and in certain areas where administrative, military and economic centres were established, weavers were employed in royal workshops, although spinning and weaving were also likely to have been practised in any individual household.

There is no evidence that the state dependent craftsmen were supplied with raw materials as in the i*škaru* system which was organised by the Neo-Assyrian kingdom. In the Neo-Assyrian system certain amounts of raw materials were allocated to the craftsmen who turned the materials into finished products for the state.[100] Their obligations were defined '...to supply the finished products with a commercial-style debt-note' both by independent craftsmen who were working under government contract as well as those were dependent on

[98] There is evidence from Mari dating back to 19th and 18th centuries BC to the time of Shamshi-Adad I and Zimri-lim, where a numbers records mention the movement of craftsmen including chariots-makers, carpenters, builders, and leatherworkers travelling between Mari, Hazor, Yamhad, Carchemish and Emar (Sasson 1968: 52-55). There is evidence of a woodcarver from Carchemish who was employed at Mari, and who was provided with rations and lodging as well as other artisans from Hazor, Yamhad and Emar (Sasson 1966: 180-181).
[99] Oded 1979: 54-59, 102.
[100] Postgate 1979: 205.

government for rations.[101] The system was intended to reduce the number of ration-drawing personnel. It can thus perhaps be argued that certain crafts such as carpentry, metallurgy and textile making in the Urartian state similarly allocated the craftsmen with raw materials in return for rations. It is probable that the state also employed stone masons for construction of citadels and water facilities.

Overall, it seems that among the craft industries of Urartu, weaving, stone masonry and metal working played a prominent role in the socio-economic life of the Urartian kingdom.

[101] Postgate 1979: 205.

PART III

ECONOMIC AND ADMINISTRATIVE STRUCTURE OF THE URARTIAN KINGDOM

III.1. ADMINISTRATIVE DIVISIONS

III.1.1. Introduction

How was the administrative division of the Urartian kingdom arranged, what was the role of Tušpa, was there a 'central government', and how should we see the role of the major citadels in the wider context? To find answers to these questions we need to turn to the written sources. Both Urartian and Assyrian sources indicate that the Urartian kingdom was divided into administrative districts or provinces governed by ^{LÚ}*EN.NAM*s (see III.1.3.1). In Urartian studies it is usually stated that the kingdom was governed from the capital Tušpa and the city itself is identified with Van Kalesi, located on the eastern shore of Lake Van. As is the case with administrative units, there is no specific textual evidence stating that the kingdom was governed from Tušpa but there are, written texts which strongly identify the site with the kings of Urartu. In the following chapter I will adopt Zimansky's hypothesis[1] for the regional organisational structure of the Urartian state and use both archaeological and textual evidence for the role of Tušpa and provinces or major citadels within the organisational structure for the kingdom.

III.1.2. The Capital Tušpa

The name of Tušpa appears as part of the Urartian kings titulary as '*alusi* ^{URU}*ṭurušpa URU*' '*lord of the city of Tušpa*' (see III.5.4 for Urartian kings' titles) at the end of most royal inscriptions, throughout the lifetime of the kingdom, and even after the foundation of Rusaḫinili ^{KUR}Qilbani=kai (Toprakkale), which was believed to have been the capital of the kingdom from the reign of Rusa (II) son of Erimena onwards. Neo-Assyrian texts also often mention the name Tušpa[2], when reporting the whereabouts of Urartian kings. All the textual evidence associates the city with the Urartian monarch and most importantly, the earliest inscriptions of Urartian kings found in the Lake Van area indicate that the kingdom spread outwards from a core area of the Lake Van basin. The rock with which the site of Tušpa was identified extends in east-west direction about 1.5 km in length and between 70 m and 80 m

[1] Zimansky 1985: 77-94.
[2] For example SAA V 84: r 5; 91:8; 92: r 16; 145: 12.

wide,[3] strategically located at the east of the Van Plain and surrounded by steep mountains such as Erek to the east. The abundant water sources at the west end of the rock in particular at Madırburc and the streams that run off Erek Mountain into the Van Plain affirm the strategic importance of the rock.

While the rock rises up to 100 m in height to the south and provides a natural defence from this direction, the northern slope is only a few metres above the level of the plain. However, a strong fortification wall covers the natural slopes on this weaker side. The ashlar limestone blocks of the fortifications and the terraces in which these walls were constructed are founded on strong foundations cut into bedrock. To the north of Van Kalesi lies a lower settlement, oriented in an east-west direction parallel to the citadel itself, while the southern section is named 'Eski Van Şehri' (Old City of Van) where an American expedition found Urartian period pottery. Also an Urartian period burial ground was identified at the north of Van Kalesi and is known as the Van/Altıntepe necropolis.[4]

Urartian period structures exist at Van Kalesi, such as the multi-chambered rock-cut tombs that are carved into the cliff of the citadel and inner citadel. The Inner Citadel is located at the highest point of the rock and is defended by two massive rock-cut ditches to the east and west of the citadel which further highlight the importance of Tušpa to the Urartian monarch. There are six multi-chambered rock-cut tombs which are considered to be the burial places of Urartian kings, but with exception of the example located at the west end of the cliff, which is inscribed with the annals of Argišti I (Figure 58), there is no other evidence to indicates that the tombs belonged to individual kings.[5]

King Sarduri (I), son of Lutipri, is the first king to have left inscriptions in Akkadian at the foot of the rock of Van Kalesi, in which he claims to be a 'great king'. It is widely assumed that Tušpa was founded and subsequently become the capital of the kingdom during his reign, although we have a poetic text from Sultantepe in which Shalmaneser III mentions that he received substantial tribute from the city of Tušpa (Turušpa).[6] There are numerous inscriptions mostly *in situ* at Van Kalesi as well as some examples of stele and column bases being re-used as building materials during later periods. Despite the existence of numerous inscriptions at Van Kalesi (such as the annals of Argišti I, and Sarduri II) there is only one inscription that mentions construction activities by Urartian kings at Tušpa. The Tabriz

[3] Tarhan and Sevin 1990, 1991.
[4] Sevin 2012.
[5] Köroğlu considered that Küçük (small) Horhor at Van Kalesi may have been built during the Achaemenid period based on similarities of interior design with king Darius' tomb at Naqsh-i Rustam (Köroğlu 2007: 450).
[6] Lambert 1961: 153; also see Zimansky (1985: 121 no. 6) for the evaluation of Sultantepe text.

Kapısı (A 4-1) inscription of Išpuini, which also mentions his son Minua and grandson Inušpua, records the building of a *susi* temple for Haldi and the Gates of Haldi in the city.[7]

A *bulla* from Ayanis states as '*URU.LUGAL ṭu* ^{m}*ki.ʿka?*'' the '*royal city, Mr. Kika?*' (CB Ay-2) and was translated by Salvini as the '*royal city of Tušpa*', although there is no mention of Tušpa specifically. However Assyrian sources specifically refer to Tušpa as a royal city. For example, Sargon II referred to Tušpa (Turušpa) as 'his royal city' (king Rusa)[8], which strongly indicates that it was the capital of the kingdom. Likewise, in 858 BC, the Assyrian king Shalmaneser III recorded that he destroyed the city of Sugunia[9] and then in 856 BC Arṣaškun[10], referring to both cities as the royal cities of Arramu, of the Urartian king. Both of these cities were considered to be the capital of the kingdom until Tušpa was named as the royal city of the kingdom. Interestingly, when Tighlath-pileser III defeated an Urartian-Arpad led alliance and subsequently pursued the Urartians into their heartland and besieged Tušpa in 743 BC, he referred to the city only as his (Sarduri II) city of Turušpa without mentioning that it was a royal city.[11]

The site of Toprakkale, located in the south-east of Van Plain on Mount Zımzım, has also been considered to be the location of the capital of the Urartian kingdom from the reign of king Rusa son of Erimena onward.[12] Burney and Lang argued that after the Assyrian king Tiglath-Pileser III's expedition in 735 to Tušpa and the subsequent plundering of the lower city at the foot of Van Kalesi, the Urartian king relocated his royal palace to Toprakkale, about 7 km east of Tušpa.[13] Although the absence of Urartian inscriptions after the reign of Sarduri II from Tušpa seems to support this assumption, the archaeological remains at the site are hardly convincing. Archaeological excavations conducted by English, German, Russian and Turkish archaeologists at Toprakkale uncovered a typical Urartian temple, a rock-hewn cistern, storage rooms, as well as some bronze artefacts and furniture parts[14] in the temple which were believed to have come from one or two thrones (see II.5.3) but no trace of a fortification wall or a palace structure. The Keşiş Göl + Gövelek and Savacık inscriptions of Rusa son of Erimena announce the foundation of Rusaḫinili with its water facilities, the

[7] An *in situ* inscription of (A 5-68) of Minua, located in the Van Kalesi, mentions the construction of a stable called '*siršini*' but there is no mention of Tušpa in the same text.
[8] ARAB II 154; Thureau-Dangin 1912: 26 line 150.
[9] ARAB I 599; Kirk Grayson (Grayson 1996: A.0.102.65, and A.0.102.64) interpreted this as 'the city Sugunia, the fortified city of Arramu'.
[10] ARAB I 605; Grayson 1996: A.0.102.23.
[11] ARAB I 785.
[12] Burney 1957: 40; Burney and Lang 1971: 162-163; Zimansky 1985: 79-80.
[13] Burney and Lang 1971: 162.
[14] Barnett 1950; Merhav 1991g: 254-255; Seidl 1996: 85-86.

artificial 'Lake Rusa', orchards and vineyards appear to indicate that a coronation ceremony was held or the site became the royal residency of the king Rusa, son of Erimena. However if the reign of Rusa son of Erimena is to be placed between Rusa son of Sarduri and Argišti son of Rusa, as is argued below and as was suggested by Seidl (see Appendix), the use of title the '*lord of the city of Tušpa*' by Rusa son of Erimena as well as by Rusa son of Sarduri, Argišti son of Rusa and Sarduri son of Sarduri (see III.5.4 for Royal Titles) seems to contradict both this evidence and the administrative documents from the site (CT Tk-1 Ro / UPD 12), unless the site was constructed as an alternative to the holy site of Mušašir, where coronation ceremonies of Urartian kings were held (see III.5.2).[15]

Is there any evidence on which to consider it as an alternative to Mušašir as is suggested by Veli Sevin?[16] Its proximity to Meher Kapısı, the long list of sacrificial animals at the Savacık/Havadzor (A 14-2) and the Gövelek + Keşiş Göl (A 14-1) inscriptions as well as the existence of a throne from the Haldi temple and the mention of coronation ceremonies by Rusa son of Erimena and Argišti son of Rusa at Rusaḫinili may be interpreted as giving support to the idea that the site was constructed to conduct the coronation ceremonies of Urartian kings.

We may also interpret the events before and after Sargon II's attack of Urartu and subsequently his sack of Mušašir's palace and Haldi's main sanctuary storage rooms as support for this suggestion. Further support also can be found in the bilingual inscriptions of Monova (A 10-3), Topzawa (A 10-5) and Mergeh Karavan (A 10-4) of Rusa son of Sarduri where the uneasy relationship between the Urartian king Rusa and Urzana, the king of Mušašir is mentioned. However, one would expect that the city of 'Haldini *URU*' (the city of Haldi) in the Erciş Plain to play an important role, since 'Haldini *URU*' was known to have been constructed during the reign of Išpuini and on numerous occasions mentioned in connection with building activities or the planting of vineyards or orchards. Unless Rusa son of Erimena considered Toprakkale as a monument for establishing his political authority and legitimacy, since he was considered as a usurper (see Appendix for the kingship of Rusa son of Erimena and Rusa son of Argišti). By constructing Rusaḫinili as an alternative to Mušašir close to his royal city of Tušpa he may have intended to erase the memory of recent events in regard to the sack of Mušašir by Sargon II, if indeed the site itself was to be seen as a religious centre rather than as the second capital of the kingdom, after Tušpa.

[15] Sevin 2006: 147.
[16] Sevin 2006: 147.

To sum up, the exact role played by Tušpa is hard to pin down. It could have been the capital of the entire kingdom or simply the seat of the king and his royal court. Nevertheless, the Urartian and Assyrian textual evidence as well as concentration of archaeological remains within the citadel and in close proximity strongly associate the site with the monarch and it seems certain that it played an important role. It should be noted that excavations at the Van Kalesi have so far failed to recover any archaeological evidence for public buildings or administrative texts, and the textual evidence recovered from the site also lacks any information about the role played by Tušpa in Urartian administration. Furthermore, administrative tablets from Toprakkale and other sites such as Karmir-Blur, Bastam, Çavuştepe, Yukarı Anzaf and Ayanis do not mention Tušpa. On the other hand, despite textual evidence of royal bureaucratic activities from Toprakkale (see III.5.5.2 for the personnel of *Rusaḫinili* ^{KUR}*Qilbani=kai*), it is still not clear if the site served as a capital to the kingdom or if it was used for the coronation ceremonies of Urartian king, as is argued above.

III.1.3. Provincial Administration

III.1.3.1. ^{LÚ}*EN.NAM* (Provincial Governor)

One of the most important officials to appear in the late 8th century BC Assyrian royal letters and Urartian display inscriptions is the provincial governor, designated as ^{LÚ}*EN.NAM*. Since most of our evidence comes from Neo-Assyrian sources, it is worth noting the terms that define provincial governors and the development of the terms over time. The Neo-Assyrians used the term *bēl pāḫiti* (Akkadian: NAM = *pāḫutu*)[17] –logographically written as ^{LÚ}*EN.NAM*- when referring to a provincial governor. This term is first attested in the Old Babylonian, Early Kassite and Middle Assyrian periods.[18] Provincial governors were also called *šaknu māt,* but the relationship between this and the former terms is hard to establish.[19] James V. K. Wilson argued that both bēl *piḫati* /*paḫati* and *šaknu* (Akkadian: *LÚ.GAR* and *LÚ.GAR-nu*) were in charge of provincial affairs; the former was considered '*rabâni*' 'emirate governor' and senior to the latter who was commonly appointed among '*ša rēši*'

[17] For the variant forms of '*piḫatu*' see Brinkman (1968: 296 no 1940).
[18] Brinkman 1968: 303; Postgate 1995: 2.
[19] The term '*ḫalṣum*' which appears in Mari and Nuzi texts of the late second millennium BC in north Mesopotamia was also considered by Postgate to be identical with '*bēl pāḫati*' (Postgate 1995: 2). In the Middle Assyrian period the terms '*ḫalzu*' or '*ḫalṣu*' were associated with certain cities such as Harran and Nineveh. In the late Assyrian texts '*ḫalṣ*/*zu*' also refers to province.

'eunuch governor'.[20] This interpretation contrasts with the standard view propounded by Henry W. F. Saggs[21] that the two terms were separate before the Tiglath-pileser III's reform and afterwards they were synonymous.

The reorganization of the Assyrian provinces by the Tiglath-pileser III in practice changed little as far as the status of a governor was concerned, many appointed *bēl piḫati* were previously known as *šaknu*.[22] Although Diakonoff[23] has argued that the use of *bēl piḫāti* in Assyria was a result of Urartian influence and appears after the administrative reform of Tiglath-pileser III in the second half of the 8th century BC, the overwhelming evidence in regard to the existence of *bēl piḫāti* in Assyria and in Babylonia is contradictory to Diakonoff's argument.[24] Postgate argued that bēl *piḫati* and *šaknu* could refer to the same office and that both titles could refer to the same person. He also remarked that the latter did not replace the former under the Tiglath-pileser's reforms.[25] Since the relationship between the Urartian provincial system and the concept of governors during his reforms and the reorganisation of Assyrian provinces is unclear, it is best to accept Zimansky's assessment; that the Assyrians may have modified their view of provincial governors with the Urartian model in mind.[26]

The earliest Urartian reference to ^{LÚ}*EN.NAM* appears during the reign of king Minua in the Bağın inscription where an individual named Titia was installed as governor over the area of the Elazığ region.[27] The Bahçecik inscription of Sarduri II also mentioned the appointment of a governor called Zaia(ni) in the same region (see III.1.3.2 for more detail).[28] The Nor-Bayazet inscription of Rusa I records a campaign against the king of Uelikuḫi in the Lake Sevan area and, after enslaving the king, the establishment of a governorship is also recorded.[29] Lastly the Tsovinar[30] (Figure 60) inscription of the same king states that after the conquest of the southern shore of Lake Sevan a fortress was built with the name of 'City of the Storm God' and the appointment of ^{LÚ}*EN.NAM* as a provincial governor there.[31]

[20] Wilson 1972: 12-16.
[21] Saggs 1959: 84-88.
[22] Saggs 1959: 84-85.
[23] Diakonoff 1963a: 66, no. 75.
[24] Postgate 1980: 67-76; 1995: 3-5; Brinkman 1968: 296 no. 1940; Wilson 1972: 12-16 and Saggs 1959: 84-88.
[25] Postgate 1995: 3.
[26] Zimansky 1985: 90.
[27] A 5-8 Ro line 19, A 5-8 Vo line 9 / UKN 42.
[28] A 9-18.
[29] A 10-1 4 / UKN 265.
[30] Melikishvili does not recognise ^{LÚ}EN.NAM in Tsovinar (UKN 266).
[31] Salvini 2002: 55-56; A 10-2 16 / UKN 266.

Apart from the appointment of ^{LÚ}*EN.NAM*, there are also references to his role in the military in Urartian inscriptions. For example, Sarduri II mentioned that he summoned three governors against Uiteruhi[32] and on another occasion he noted that he did not call upon any of his governors for aid against Uelikuhi.[33] With the exception of Sarduri II's reference to ^{LÚ}*EN.NAM*'s military role in Urartian display inscriptions, most of the references mention the appointment of governors to a specific region.

However, on the other hand Assyrian royal letters predominantly mention the military role of ^{LÚ}*EN.NAM* (see Table 20). This is hardly surprising considering the Assyrian preoccupation with the military activities of the Urartians. Assyrian letters on two occasions reveal that Urartian governors raised troops in preparation for war.[34] For instance, Aššur-ruṣawa, when reporting the arrival of five Urartian governors to Waisi, reported '*...they have entered Waisi with three unit commanders. Now, after their* (*arrival*)*, they have raised the levies of the country, and are keeping the army in readiness*'.[35] In ND 2487 Nabu-uṣalla, the governor of Kumme and who also appears in SAA V 104, reported that three Urartian provincial governors with their forces were set against Kumme.[36]

Governors had at least a limited military role since they are recorded at the head of troops as is testified in a letter of Aššur-reṣuwa, which mentioned the movement of troops under the command of ^{LÚ}*.EN.NAM* to Mušašir (SAA V 88). There are also indications that some individual governors occupied various positions at different stages of their career which suggests the movement between positions of power within the Urartian administration. For example, Kaqqadanu's name, the commander-in-chief (see III.3.5), appears in a letter along with five other provincial governors of Urartu as the governor of '*the one opposite the Ukkeans*'[37] and is also mentioned as a governor.[38] It cannot admittedly be said for certain that the *turtānu* Kaqqadanu and governor Kaqqadanu were the same individuals, but if so it illustrates the movement between positions of power within the kingdom.

The name of Abaliuqunu (Abaluqunu and Abliuqnu), also as a ^{LÚ}*EN.NAM*, appears in a number of letters; first as a governor of Mušašir when Mannean attacked the Urartian cities along shore of the Lake Urmia and then in another letter as the governor of a province ending with the syllable *–pa* (*^{m}a-ba-*[*l*]*i-ú-qu-nu LÚ.EN.NAM ša* [*KUR.xx*]*x-pa*). The latter

[32] A 9-3 III / UKN 155 D line 19.
[33] A 9-3 VI / UKN 155 F lines 15-17.
[34] SAA V 3 and 87.
[35] SAA V 87 lines 13-18.
[36] Saggs 2001: ND 2487
[37] SAA V 87 line 7.
[38] SAA V 89 line 5.

example also mentioned that the Urartian king assembled his army in Wazana and both his son Melartua along with Abaliuqunu with his troop accompanied the king. His name is associated with two provinces which suggests that he was the governor of both *[KUR.xx]x-pa*) and after the removal of Urzana (SAA 5 89) from power he was promoted to the governor of Mušašir. It is possible, however, that the title given in SAA 5 84: 9 was only a shortened version of the title mentioned in SAA V 90: 9 (*LÚEN.NAM ša pu-ut URU.ma-ṣa-ṣi-ri*), which translates as 'governor of the province opposite Mušašir'.[39] The latter letter reports the death of the governor opposite of Mušašir along with nine other Urartian governors at the hand of Cimmerians and if the unnamed governor opposite of Mušašir in this case was used for Abaliuqunu it may refer to the same province.[40]

Abaliuqunu also appeared in another letter written by Aššur-reṣawa to Sargon II (SAA V 91), which detailed a revolt against the Urartian king in Tušpa. The letter mentions the arrest of 21 eunuchs, including the Urartian chief tailor Naragê in Tušpa (Turušpa) and the further killing of 100 people who were involved in the plot alongside an unnamed king, perhaps Rusa who was defeated by Cimmerians. The letter also mentions the arrest of Urṣenê who is named as deputy commander-in-chief and the brother of Abliuqunu.[41] After the arrest of his brother Abliuqunu was summoned to the capital to be questioned about his role in the revolt. The text states that both were questioned, but it was determined that no sword had been drawn and they were both released.[42] Michael Roaf[43] has suggested that Abliuqunu's friendship with the crown prince Melartua (see III.3.5) may have spared his life.

Defections and rebellions by Urartian governors were a common problem. One of the Assyrian royal letters (SAA I 8) reveals that Sargon II was in contact with the Urartian king Rusa I, and in Sargon II's letter he mentions a revolt against Rusa and the defection of an Urartian governor to Assyria who was then made commander-in-chief there.[44] Assyrian letters also testify to provincial revolts against the Urartian king. For example, a revolt in the province of Kar-siparri was repressed by *turtāni*.[45] On another occasion, after what appears to be a civil incident, the Urartian king took a governor of a province with him to Tušpa (Turušpa) and there dismissed him.[46] Unfortunately the fragmentary nature of the letter

[39] Salvini 2006a: 100; Parker 1998: 23.
[40] Parker 1998: 23.
[41] SAA 84 line 9.
[42] SAA V 91 lines 13-22.
[43] Roaf 2012: 205 no. 69.
[44] Lanfranchi and Parpola 1990: XIX; SAA I: 8.
[45] SAA V 166.
[46] SAA V 179.

obscures the name of the province as well as the governor's name. The letter also describes the further removal of a deputy governor along with a village manager. Although there is no specific reason given for the removal of these officials, the sender's description hints that it was either for corruption or incompetence if not a revolt.[47]

Although there are occasional references to '*LÚ.EN.NAM 2-u*' as a 'deputy governor', there is no specific information about their role in the Urartian administrative system. For instance, the Assyrian governor of Amidi, Liphur-Bel reported that the governor opposite him with his deputy governor were in the city of Harda and there levied troops ready for war.[48] On another occasion, Setini, who was described as the governor opposite Aššur-rēṣa, set out to Mušašir with his officers as mentioned above.[49] Furthermore, as mentioned above a governor and his deputy were dismissed by the king.[50] The mention of deputy governors and other military officials in Assyrian royal letters suggests that in the Urartian provincial administration structure the existence of such subordinates officials and their importance.

The letter ND 2433[51] implies that the provincial governor responsibilities were not solely limited to military activities and suggests that diplomatic functions were also within the remit of the governor's duties. The same letter reports negotiations over an attack on the Assyrian fortress at Meṣi between an Urartian governor and an Assyrian official.[52] On another occasion a peace negotiation between an Urartian official and his Assyrian counterpart is reported[53], although on this occasion the status of the Urartian official is not specified. When one considers the administrative structure of the Urartian kingdom, it is likely a governor would have performed this role. The Assyrian official who was in charge of negotiations suggested a renewed attack on Urartu and it appears that Urartian had also plotted to murder the Assyrian official.

Table 20. Urartian Provinces and Governors in Assyrian Sources

Governor	Province	Source
-	KUR.al-zu-nu	SAA V 31: 17
Siplia	KUR.al-zi	SAA V 87:9-10

[47] SAA V 179.
[48] SAA V 3.
[49] SAA V 88.
[50] SAA V 179.
[51] Saggs 2001: ND 2433
[52] Saggs 2001: ND 2433
[53] Saggs 2001: ND 2673.

Tuki	KUR.ár-mir-a-li-u	SAA V 87:10-11
Uraqi	ʾAza	CB Ay-10[a]
Tunbaun	URU.kar-si-par-[ri] [KUR].kar-UD.KA.BAR URU.kar-URUDU.MEŠ	SAA V 84:12 SAA V 90:12 SAA V 166:r.1
Abaliuqunu	URU.mu-ṣa-ṣi-ri - *[KUR.xx]x-pa*)	SAA V 84:9-10 SAA V 91:14,16 SAA V 114:9-8
Sakuatâ	KUR.qa-ni-un	SAA V 87:9
	URU.pu-lu-a	SAA V 21: 11; SAA V 33:r.16; SAA V 31: 16, SAA V 145:r. 4
-	KUR.šá-at-te-ra	SAA V 90: 13
-	KUR.ši-ib-ˀṭuˀ[r]u?	SAA V 90: 11
-	URU.ú-a-si KUR.ú-a-si	SAA I 29:r.2; 30: e8; SAA V 11:r.7; 133:12; 147:9,164:7; 167: 3,5; SAA V 86:9; 87:5,14; 88:r.6; 145:e.16; 93:2; 112:3; 93: r9 SAA V 11:r.7
-	KUR.ú-a-za-e! KUR.ú-a-za-na! URU.ˀha?ˀ-za!-un KUR. ú-a-za-un	SAA V 90:10 SAA V 114:4 SAA V 87:r.1 SAA I 31:r3

a: The name of Uraqi appears in an bulla from Urartian site of Ayanis as the governor of ʾAza.

III.1.3.2. Provinces or Major Citadels

Although there is ample evidence regarding the existence of ^{LÚ}*EN.NAM* (see Table 20) and their importance in the Urartian provincial system as administrators and army commanders (see III.1.3.1), we do not know how many of these administrative units existed at any given time, what their boundaries were or how there were organised. It should also be pointed out at the outset that there is no specific reference to a province as an administrative unit in Urartian written documents. One would expect that such information would be given in Sargon II's account since his detailed description of the Urartian countryside provides us with a unique insight into the Urartian kingdom. When Sargon II marched through the Urartian territory in the Lake Urmia basin he referred to Urartian administrative units as

'*nagu*' (district or province), - as oppose to '*pāḫutu*'[54] which was used to refers to a province in Neo-Assyrian period texts. He recorded six provinces, one of which was in Mannea, having recently been added to Urartian territory by Rusa I.

However, as Zimansky notes[55] the names of territories in Urartian texts were usually preceded with determinative '*KUR*' (country or land). Therefore one may argue that the Urartians might have used *KUR* determinative when they refer to an administrative unit or province, though Assyrian royal letters interchangeably use the determinatives *KUR* and *URU* when referring to Urartian provinces (see Table 20). As is the case of *É.GAL* which seems to be used for 'citadel' rather than 'royal palace' as originally applied by Akkadian sources (see III.2.3). The Urartians might have used the *KUR* determinative in the same way when they referred to their own provinces. There are examples of *bullae* from Ayanis[56] and Bastam[57] inscribed with the names of lands or countries with the determinative *KUR*, although *URU* is also used for the names of certain cities. For instance, some of the *bullae* were inscribed with name of the country of 'Aza where the sites of Karmir-Blur, Arinberd and Armavir were located[58], along with the name of the country of Ala'ni, where the site of Bastam is located. A *bulla* from Ayanis (CB Ay-10) mentions a governor called Uraqi, in the country of 'Aza with the determinative *KUR*.[59] Whether the *KUR* determinative was applied to administrative units is hard to know for sure but the lands or countries of Ala'ni and 'Aza seem to have been major administrative units - if not provinces - since the excavations at sites in these regions, such as Bastam, Karmir-Blur have uncovered large complexes of buildings and most importantly, administrative texts.

As we have no direct information regarding how an Urartian province was organised or functioned, we have to turn to Assyrian royal documents. Although the information provided in these documents is limited and mostly concerned with military matters, they do occasionally provide snippets about Urartian governors. For instance when Assyrian royal texts report an Urartian defeat at the hand of the Cimmerians[60] there were two conflicting accounts; in the first it was reported that nine governors were killed[61], while in the second instance the crown prince Sennacherib reported that 11 of the Urartian governors had been

[54] Postgate 1995: 2.
[55] Zimansky 1985: 93.
[56] For example, CB Ay-1, 4 and 11.
[57] For example, CB Ba-4, 5, 6 and 7.
[58] See also A 8-3 IV, A 8-2 Ro, A 8-14 and CT Kb-10 / UPD 10.
[59] CB Ay-10.
[60] SAA I 30, 31 and 32; SAA V 90.
[61] SAA V 90.

eliminated with their troops as well as the capture of the commander-in-chief and two other governors.[62] In another report Ašipâ, the governor of Tušhan, mentions six governors, three in Pulua and another three in Daniban.[63] There is similar information from Urartian display inscriptions; for instance, when Argišti I campaigned in north-eastern Anatolia, into the land of Diaueḫi, and claimed that he replaced four kings with four governors.[64]

The actual boundary of a province is mentioned in one of the recently discovered Urartian inscriptions. The Bahçecik/Elazığ inscription of Sarduri II found not far from Bağın, where an inscription of Minua named an individual called Titia[65] as governor, mentions the construction of a *susi* temple and fortress named 'Sarduriḫinili' and, most importantly mentions the appointment of a governor called Zaia(ni) as follows:

'*Sarduri says: I appointed Zaia*(*ni*) *as governor of the land up to the city of Militia, up to the city of Qu*[*maha*(?)], *up to the city of Nihiria in the land of Ar*[*me*], *and up to the land of Hašime*[ ], *in order to keep order* (?) *by* [*the greatness* (?)] *of Haldi*…' (A 9-18).[66]

Although we do not know much about the Titia's province that was mentioned earlier by Minua (see III.1.3.1) and if the province of Titia and Zaia(ni) are the same, the boundaries of the province mentioned in this inscription certainly covered a wide area, comprising the eastern part of the Euphrates River from the east of Militia (Malatya) kingdom to Qumaha[67] (modern Adıyaman) in the south. The city of Nihiria in the land of Arme (on the upper reaches of the Tigris)[68] is considered to be located in the vicinity of modern Hazro, north-west of Diyarbakır[69] and the land of Hašime very close to the east of Nihiria.[70] Archaeological remains from the above regions indicate that under Urartian occupation, the number of settlements increased in all these areas.[71] Furthermore the number of settlements and cities mentioned in Sargon II's account of his campaign, which he destroyed as he moved from one province to another, indicate that some of these administrative units/provinces were densely populated and there were numerous settlements in close proximity to the big citadels.

[62] SAA I 31.
[63] SAA V 21: 11-20.
[64] A 8-2 Vo 15-18 / UKN 128 B1.
[65] A 5-8.
[66] Payne and Sevin 2001: 111-119.
[67] Payne and Sevin (2001: 115) discuss the possibility of *Qu*[*maha*(?)] being Qutume in the Elazığ region.
[68] Diakonoff and Kashkai 1981: 11.
[69] Diakonoff and Kashkai 1981: 11, 60; Payne and Sevin 2001: 116.
[70] Payne and Sevin 2001: 116.
[71] Sevin 1986; 1987; 1988.

For example, Sargon II claim to have destroyed 146 cities in the province of Sangibatu[72], 30 in Armarili[73], 30 in Aidi[74] and 115 in Uishdis.[75] These settlements were referred to as *birtu* (fortress), '*āl dannūti*' (fortified settlement) or as the 'settlements in its vicinity' (*ālāni ša limtišu*).[76] When one considers the small size of Urartian citadels, it is likely that these settlements were the dwelling places of ordinary people where the majority of the Urartian population actually lived.

However, the name of Zaia(ni)'s province is not given but Urartian inscriptions on many occasions refer to the area of the Murat River valley[77] with the determinative '*KUR*' as Alzi.[78] Therefore, if there was only one administrative unit in this region it is reasonable to suggest that Zaia(ni) was appointed as the king's personal representative to Alzi. However the Palu inscription of Minua (A 5-5 / UKN 39) refers to the same region as Šebeteria for both land and city, but this name does not appear in later period inscriptions and one may assume that the name of the region must have changed to Alzi unless there were more than one province. Support for the name of Alzi can be found in an Assyrian royal text where a ^{LÚ}*EN.NAM* called Siplia was mentioned as the governor of Alzi.[79]

On the other hand there are three major fortresses (Bağın, Palu and Kaleköy/Mazgirt) in this region that can be seen as local administration centres, since the Bahçecik inscription comes from a secondary context, having been reused as part of a villager's home before its removal to the Elazığ Museum. A small Urartian period site (150 x 60 m)[80] close to Bahçecik village was cited as a likely source of this inscription by M. Payne and V. Sevin but was dismissed by these authors as the provincial governor's seat that had been mentioned in the Bahçecik inscription. Two Urartian sites in the region are of near equal distance (about 30 km) from Bahçecik: to the northeast is Palu on the south bank of Murat River[81] and to the northwest is Bağın (150 x 130 m)[82] on the banks of the Perisu River. The importance of the site of Palu can be seen from Urartian period remains of three rock-cut tombs, two cisterns and Urartian styled fortification walls as well as an inscription of Minua describing the conquest of the region. On the other hand, the remains of two cisterns, the major masonry

[72] ARAB II 164.
[73] ARAB II 165.
[74] ARAB II 166.
[75] ARAB II 158.
[76] Stone and Zimansky 2009: 633.
[77] Diakonoff and Kashkai 1981: 7.
[78] A 5-9, A 5-11 A-B.
[79] SAA V 87: 9.
[80] Köroğlu 1996: 30.
[81] Köroğlu 1996: 15-26.
[82] Köroğlu 1996: 21-22.

work of its fortification walls and Minua's inscription from the site of Bağın could also be an indication of it being an administration centre. Similarly, the remains from Kaleköy/Mazgirt (17 km west of Bağın)[83], which include a rock-tomb and an inscription of Rusa (III) son of Argišti[84] as well as its masonry work also can be classified as an important centre in the region when considering Urartian period remains from here.

However since the Palu inscription of Minua refers to Palu as Šebeteria, and Sardurḫinili was a newly-created site; it is unlikely that Sarduri was referring to Palu unless the name of the land or the city had been changed or if there had been some kind of reorganisation of the administrative structure of the kingdom between the reigns of Minua and Sarduri II. However, the sites of Bağın and Kaleköy/Mazgirt are too close to each other for each of them to have been the centre of separate administrative units. Furthermore we also do not know much about the provincial structure of the state and therefore it is hard to know exactly how far each province was from the other. We may tentatively suggest the likelihood of Bağın as a possible candidate for the centre of a province or we may need to reconsider the site of Bahçecik as a possible location of Sardurḫinili and therefore as regional centre. Although it is hard to say for sure if the boundaries of Zaia(ni)'s province remained the same throughout the lifetime of the kingdom, as well as its exact location, the Bahçecik inscription nevertheless suggests that ^{LÚ}*EN.NAM* could be in charge of large areas, since it is known that Sarduri II received tribute from both the Militia king Hilaruada[85] and the Qumaha king of Kuštašpili[86], the province mentioned would have had borders with both of these kingdoms to the west and southeast (see the Spoils of War chapter section on tribute). Therefore, in the light of the Bahçecik inscriptions, it can be argued that either there was an attempt to reorganize the administrative centres in this region or unite various existing centres or even perhaps to integrate the newly conquered land into the existing administrative structure of the state. However since the boundaries of the administrative unit are mentioned it is likely that there was an attempt to reorganize the administrative centres in this region into a single administrative unit.

Furthermore Titia and Zaia(ni) may have been appointed among the leaders of powerful tribes, since both individuals were mentioned in the 8th century BC inscriptions when the kingdom was emerging (see III.5.7 for more detail).

[83] Köroğlu 1996: 22-23.
[84] A 12-6.
[85] A 9-4 /UKN 158, A 9-1 Vo /UKN 156 B1.
[86] A 9-3 IV.

III.1.4. Conclusion

Overall, on the one hand the exact role played by Tušpa is hard know without firm evidence about its role within the administrative structure of the kingdom. On the other hand despite textual evidence of royal activities from Toprakkale it is not clear if the site served as the capital of the kingdom. Nevertheless Tušpa is strongly associated with the monarch and it seems to have been the capital of the kingdom or it may have been the seat of the king throughout the lifetime of the kingdom.

Zimansky, who has reviewed all of this written evidence, concluded that the Urartian state consisted of a 'mosaic of lands or provinces' and that each of these was located in plains surrounded by natural barriers, and had governors whose responsibility was to provide manpower when required to do so by the king.[87] Based on present archaeological and textual evidence, it is hard to say for sure whether the Urartians divided their lands into provinces administered from big citadels (e.g. Karmir-Blur, Ayanis, Bastam, and Çavuştepe) and their surrounding plains which then represented an administrative unit within the kingdom. However, it does seem likely that some of the big citadels which featured temples, storage rooms, workshops, administrative and other public buildings might have been the seat of ^{LÚ}*EN.NAM* and were administrative, economic and military centres. Therefore one may tentatively argue that an Urartian province could be described as such: located in a plain surrounded by natural barriers; containing buildings such as a palace, temple, storage rooms, large cisterns; and, in some cases, bearing building inscriptions or annals which were carved on architectural stone blocks, or even associated with multi-roomed rock-cut tombs and lower town settlement.

[87] Zimansky 1985: 94.

III.2. BUILDING ACTIVITIES OF THE MONARCH

III.2.1. Introduction

Urartian royal inscriptions mention various building projects undertaken by the kings. Building inscriptions were usually standardized. They begin with divine praise, usually to Haldi, and then continue with a king's name, the name of the building project and end with third person verbal forms. The texts usually begin either with '*...through the might of Haldi*' or '*...through the greatness of Haldi*' and a quotation from the Urartian king, following a statement concerning the building project and on some occasions ends with a curse formula.[1] Usually the texts mentioning building projects were carved on large blocks of finely dressed stone and were incorporated into the masonry of the building concerned. Royal annals and military campaign inscriptions also note the building activities, though are limited only to the construction of fortresses, cities or settlements and irrigation works.

Most of the these construction projects were in the Lake Van basin and the Ararat Valley and were created between the reigns of Išpuini in the early years of the monarchy to Rusa (III) son of Argišti to the middle of 7th century. There is a considerable rise both in the number of inscriptions and construction projects between the reigns of Išpuini to his son, king Minua. But with the reigns of Argišti I and Sarduri II we see a steady decrease both in the number of inscriptions and so, by implication, construction projects. There is again a decrease in the number of inscriptions and construction projects during the reign of Rusa I but by the time of Rusa III we can see a slight increase in activity.

Large scale buildings or the creation of new cities and citadels often took place in previously uninhabited, uncultivated or abandoned landscapes and would transform the entire landscape through cultivation of new agricultural lands, plantation of orchards, vineyards or construction of water facilities, as in the case of Ayanis and Toprakkale. Urartian kings, like their Assyrian and Neo-Hittite counterparts[2], commemorated the foundation of these new cities or fortresses with royal rhetoric inscribed in the new structures. This rhetoric, expressed in these inscriptions, emphasised the contrast between the formerly untouched, barren and uncultivated landscapes and the newly-established well-irrigated and agriculturally

[1] For example A 11-6 lines 14-16.
[2] Harmanşah 2013: 26-27

flourishing landscapes. By doing so, there is an attempt to secure political legitimacy and authority by the Urartian kings.[3]

In this chapter I will examine the types of building projects mentioned in Urartian inscriptions and relevant archaeological evidence in order to assess the role of the monarch in building activities. However, since the monarch's role in the organisation and construction of irrigation activities such as water reservoirs (*šue*), fountains (*tarmanili*) canals (*pili*) and cisterns (*gie*) as well as agricultural activities and storage facilities (*'ari* and *pithoi*) are mentioned in great detail in part II, these particular activities of the Urartian monarchy are not included in this chapter. Although Zimansky[4] reviewed the relevant inscriptions concerning the royal building projects of Urartian kings, since his study there have been major excavations (for example Ayanis and Yukarı Anzaf) and most importantly the publication of Salvini's new *Corpus* and this new evidence requires us to re-analyse such projects and the role of monarch in them.

III.2.2. URU (City?)

The Sumerian logogram *URU* is used as a determinative before the names of cities and was considered to be the equivalent phonetic reading of the Urartian term *patari*[5] meaning city. In Urartian inscriptions the term *URU* was used before the capital Tušpa, sacred city of Ardini[6] (Assyrian Mušašir) and other major sites such as Rusai *URU.TUR* (Bastam), Erebuni (Arinberd), Haldiei *URU* ^{KUR}Ziuquni (Kef Kalesi/Adilcevaz) and Teišebai (Karmir-Blur). The cities of ^{URU}Arşuniunu[7] and Haldini *URU* (the city of Haldi)[8] also feature predominantly in Urartian inscriptions and are listed in the Meher Kapısı inscription (A 3-1 line 15). Both of these cities are always mentioned in connection with buildings activities or the planting of vineyards or orchards.

Minua mentions the construction of four *URUs* in the Lake Van basin and one in Tsolakert/Taşburun near Ağrı (see Table 22). Minua's son Argišti I was responsible for the construction of two in the Ararat Valley. Rusa I, in the Tsovinar inscription -located in the Lake Sevan basin, stated that for the humiliation of the hostile country he constructed an

[3] Smith 2000: 139-141.
[4] Zimansky 1985: 61-76.
[5] Melikishvili 1960: 384 and 453; Diakonoff 1971: 90.
[6] For example see for Išpuini (Kelishin A 3-11 Ro lines 1, 17, 26, 33 and 23), Argišti I (Monava A 8-3 V line 42) and Rusa I (A 10-3 Ro line 59 and Topzawa A 10-5 line 2).
[7] For example, Kevenli/Şuşaniş (A 5-44) and Berkri/Muradiye (A 5-30).
[8] For example, Köşk/Güsak (A 5-33, A 5-36), Molla Bayezid (A 9-12) and Nor Bayezid (A 10-1).

É.GAL and named it *^{D}IM-i URU* (city of the Teišebai).[9] Argišti II in the Hagi/Erciş inscription mentioned the construction of more than one *URU* as did Rusa III who in the Ayanis temple inscription stated that he had constructed more than one (*URU^{MEŠ}*). Rusa III is also known to have constructed four more *URU*, one of them constructed as an *É.BÁRA* and named as '*Rusai URU.TUR*' (thought to be the site of Bastam) (see Table 22).

However, use of the plural *URU^{MEŠ}* in the Ayanis temple inscription of Rusa III as well as the Argišti II inscription of Hagi/Erciş seem to indicate that the logogram may not refer to a city or major settlement but rather to much smaller sites, even to a group of building or houses scattered around fortresses, such as at Ayanis.

Therefore the question that needs to be addressed is did Urartian kings really plan and found cities as their inscription claim? If so, to what extent was the central authority involved in planning or in the actual building process? Recent excavations at Ayanis outer town (Dış Kent) might provide information on the nature of settlement and the extent of a monarch's involvement in the building process. Although the textual evidence from Ayanis indicates that the citadel and settlement were constructed in the 7th century BC and therefore towards the end of the kingdom, nevertheless the archaeological evidence from this site can provides us with information about similar claims in the earlier period.

In the Ayanis temple inscription, king Rusa (III), son of Argišti stated: '*I built through* (?) *people* (*craftsmen*? *evidently the deportees*) *that fortress and the settlements'*.[10] This statement indicates that the construction of Rusaḫinili Eidurukai and the cities or settlements (*URU^{MEŠ}*) were created around Ayanis and were part of royal building projects in which manpower was supplied through deportation process (see III.4.4) that was practised by the earlier kings of 8th century BC. Excavations at Ayanis Outer Town uncovered some structures which appear to have been planned, with high quality construction. In some cases the layout of the houses excavated share an identical plan and structure.[11] Being in close proximity to the citadels, the identified buildings were interpreted as public structures on the basis of the building techniques being standard Urartian. In contrast the buildings uncovered

[9] Hovhannes Sanamyan suggested that it is likely that Rusa I used the existing citadel of Tsovinar (Odzaberd) (Figure 5) which was built in the Late Bronze–Early Iron Age, strengthening its northern corner and reconstructed the southern wall (Sanamyan 2002: 323). The partially reconstructed structure included a new fortress – though the new fortress was built according to local tradition, the existence of buttresses indicates the influence of Urartian building techniques -and the lower settlement and was the military and administrative centre of the region (Sanamyan 2002: 319-324).
[10] Salvini 2001b: 261; A 12-1 VIII.
[11] Stone and Zimansky 2009: 637.

at Güney Tepe slope away from the citadel show various construction techniques which indicate a lack of formal planning.[12]

Ayanis Outer Town is not the only excavated settlement created during the reign of Rusa III. The settlement areas of the other citadels of Rusa III such as Karmir-Blur and Bastam have also been excavated. Boris B. Piotrovsky suggested that the layout of the buildings in the settlement of Karmir-Blur were built in advance for people transferred from other areas.[13] Excavation at Bastam lower town uncovered mostly public building.[14] At Armavir (Argištiḫinili) excavations unearthed a number of houses between the two citadel in the walled area, although the structures appeared be substantial, they showed variations in their layout.[15] Furthermore in the Lake Van basin, lower settlements are known to have existed at sites such as Van Kalesi[16], Yukarı Anzaf[17], Körzüt[18], Eski Norgüh Kalesi[19], Zivistan Kalesi[20], Muradiye Kalesi[21], Deli Çay Kalesi[22] and Kef Kalesi.[23] However, the absence of a lower settlement at Çavuştepe is noteworthy.

However, whether the term *URU* refers to a 'city' in the modern sense, smaller settlements or even to a group of houses that stood together is hard to know.[24] In the light of overwhelming evidence of citadels with lower settlements, in particular from the sites that are known to have been constructed by a monarch, it is reasonable to suggest that that *URU* may have been intended to refer to both the lower settlement and citadel together. But archaeological evidence from Ayanis' outer town shows that not all lower settlements were

[12] Zimansky 2012: 107-109.
[13] Piotrovsky 1969: 178.
[14] Kleiss 1988: 19-23, Abb. 10-12.
[15] Forbes 1983: 125-130.
[16] Van Kalesi Höyük, located east of Van Kalesi and measuring 1400 m in length with a varying width of 230 m to 2-60 m north-south, was partially excavated by M. Taner Tarhan and Veli Sevin (Tarhan and Sevin 1991: 429-456) and is currently excavated under the direction of Erkan Konyar.
[17] Yukarı Anzaf lower town or settlement covers an area of approximately 141 ha, south of the citadel and appears to have been partly walled (Belli 1999a: 16-18 Fig. 7).
[18] Körzüt lower town extended to the east and north-east of the citadel in an area between 8 and 9 ha (Tarhan and Sevin 1977: 285-286).
[19] Located 10 km north-east of Gürpınar, Eski Norgüh Kalesi, the lower town extended to the east, north-east and south-east in an area of approximately 20 ha (Tarhan and Sevin 1977: 287-296).
[20] Burney 1957: 45.
[21] Burney 1957: 48.
[22] Burney 1957: 49.
[23] Burney 1957: 50-51.
[24] Most often when considering the role of the Urartian monarch in planning and building cities or settlements the name of Zernakitepe, located in the Erciş Plain northern shore of Lake Van, is usually given as an example of royal planning and building (Burney 1957: 49-50; Burney and Lawson 1960: 185-188; Nylander 1966:141-154). The unfinished grid-plan settlement is attributed to the Urartians on the basis of style and techniques of stone working and perhaps most importantly for being in the Lake Van basin. However the use of clamps and the grid-plan, which are hitherto unknown in Urartian architecture and the lack of red-burnished pottery, as well as the existence of stucco fragments from the site seems to indicate a post Urartian date (Sevin 1997: 173-180).

constructed by the monarch as a unified plan and as the textual evidence might suggest. It is clear that, to a certain extent, the monarch was involved in the construction of public buildings in the lower areas close to Ayanis citadel. In addition, the remains from the slope of Güney Tepe show less evidence of planning, and the variations in the structures of houses indicates that either there was a natural growth or bearing in mind that Ayanis was occupied for only a short period, it is possible that deportees might have built their own shelters here.[25]

Table 21. *URU* (settlements) construction of Urartian kings

King	**Texts URU** (CTU)	**Location**
Išpuini		
	A 2-9A-B	Karahan
Minua		
	A 5-17 Ro	Salmanağa/Erciş
	A 5-27?	Tsolakert/Taşburun
	A 5-28; A 2-29; A 5-30 Ro; A 5-31 Ro	Karahan
	A 5-32	Varagvank (Yedikilise) Van
	A 5-34	Kevenli Van
Argišti I		
	A 8-1 Vo; A 8-3 II	Erbuni (Arinberd)
	A 8-2 Ro	Argištiḫinili (Armavir)
Rusa I		
	A 10-2[a]	Tsovinar
Argišti II		
	A 11-2 Vo[b]	Hagi/Erciş
	A 11-6**?**	Shisheh/Ahar
Rusa III		

[25] Kemalettin Köroğlu (2012: 149–157) recently argued that Urartian settlements can be categorized as cities, local administrative centres and rural settlements. Köroğlu refers to cities as the settlements that were designed and constructed by the central government and consisted of a citadel and a lower town, probably being directly ruled by a member of the royal family (Köroğlu 2012: 150-152). Typically, citadels contained palaces, temples, storage facilities, and cisterns. Most importantly, with the exception of Van Kalesi there are no multi–roomed rock–cut tombs in cities and they displayed altered topography. The local administrative centres were built by local tribal leaders, who were survived and integrated themselves into the Urartian kingdom (Köroğlu 2012: 152-155). These administrative centres were distinguished by the fact that no effort was made to alter the topography of the crags on which these centres were built and the shape of these citadels was dictated by the natural shape of the outcrop. Rural settlements, mansions, or villages, were usually built on high ground, like citadels, but without the surrounding walls (Köroğlu 2012: 155-157). They probably belonged to local feudal lords who joined the Urartians and settled in eastern Anatolia. However Köroğlu's three–tiered system is not consistent with the textual evidence and mostly relies on the absence of multi–roomed rock–cut tombs in the major excavated centres. He also failed to take into account diachronic or regional variations.

	A 12-1VIII[b]	Ayanis
	A 12-4	Adilcevaz/Kef Kalesi
	A 12-7[c]	Bastam
	A 12-8	Zvartnots/Ecmiadzin
	A 12-9	Ayanis

Note: **?** indicates the presence of a *URU* is not certain, **a.** Rusa I in the Tsovinar inscription states that he constructed an *É.GAL* and named *^{D}IM-i URU* (city of the Teišebai), **b**. the Hagi/Erciş inscription of Argišti II and Rusa III's Ayanis temple inscription mentions the construction of more than one *URU* (*URU^{MEŠ}*) **c.** The Bastam inscription of Rusa III mentions the construction of an *É.BÁRA* and named it *'Rusai URU.TUR'.*

III.2.3. *É.GAL* (Fortress)

In Urartian royal inscriptions the sumerogram *É.GAL* (Akkadian *e-kal-lu,* literally royal palace)[26] was used in connection with citadels which contained a complex of buildings rather than only a fortified royal residence. Konstantin L. Oganesjan[27] suggested that an *É.GAL* should be considered a 'stronghold' if that stronghold contained a palace quarter and was the permanent residence of a provincial governor or temporary residency of the Urartian king. Oganesjan also argued that *É.GALs* were often constructed with *susi* temples. In contrast, Melikishvili[28] referred to as 'fortress'. Zimansky suggested that the term *É.GAL* appears to have been used 'ambiguously' by Urartian kings, for settlements, administrative buildings and fortresses.[29]

However, excavation of the Aşağı Anzaf fortress shows that not all *É.GAL*s contained a *susi* temple. The Aşağı Anzaf inscription (A 2-6 A-C)[30] of Išpuini, the first king to construct an *É.GAL*, states that he built an *É.GAL* and excavations undertaken at this site uncovered a fortress in a north-south direction measuring 62 x 98 m.[31] The Aşağı Anzaf fortress was built as a military post and guarded the routes leading to Tušpa from north-west Iran to the east and Transcaucasia to the north as the strategic position of it suggests. Sarduri II, who build *É.GAL*s in newly conquered territories, states that he constructed an *É.GAL* called Uraia[32] and left there a garrison and constructed more than one *É.GAL* at Puluadi[33] for the humiliation of

[26] CAD, Vol. E, 52, *ekallu*, no. 1.
[27] Oganesjan 1960: 293 Pl. 2; 1961: 26-27, Pl. 5.
[28] Melikishvili 1951: 33.
[29] Zimansky 1985: 64.
[30] '*Thanks to the power of Haldi, Išpuini, son of Sarduri, a perfect fortress* (*É.GAL*) *I have constructed, powerful king, great king, king of Biainili*' A 2-6 A.
[31] Belli 1999a: 9-15.
[32] A 9-3 III lines 26-30.
[33] A 9-3 IV lines 6-17.

the enemy. The gate inscription of Ayanis citadel (A 12-9) makes it clear that the *É.GAL* is the whole site including the temple, storage rooms and other buildings. In the Ayanis inscription Rusa III stated that:

'(1-3) *through the greatness Haldi, Rusa, the son of Argišti, has built this fortress* (*É.GAL*) *to perfection in front of the mountain Eiduru.* (3-6) *Rusa says: the rock was untouched nothing was built here* (*before*)*. I built a shrine* (*É.BÁRA*) *as well as a fortress* (*É.GAL*)*, perfectly*. (7-8) *I set new vineyards and orchards and founded a new town* (*settlement*) (*URU*) *here*.'[34]

Urartian inscriptions mention the construction of more than 35 *É.GAL*s beginning with king Išpuini (see Table 21), who is known to have built two, at Aşağı Anzaf and Karahan, respectively. King Minua was responsible for the construction of 18 *É.GAL*s, mostly in the Lake Van basin, but also close to the Ararat Valley basin at Iğdır/Başbulak and Tsolakert/Taşburun as well as Qalatgah and Taştepe/Mianduaba in the Lake Urmia basin. Minua's successor, Argišti I, claims to have built four *É.GAL*s, two in the Ararat Valley, one on Soğucak/Muş Plain and another one at the south-west periphery of the Urartian frontier. Armavir (Argištiḫinili) and Arinberd (Erebuni) are among other *É.GALs* constructed by Argišti I.

Sarduri II mentioned the building of six *É.GAL*s in his annals in the Hazine Kapısı inscription. Among them the site of Çavuştepe is the biggest *É.GAL*s known to have been built by him. Sarduri II successor, Rusa I, built *É.GAL*s on the shore of Lake Sevan as the *in situ* inscriptions of Nor-Bayazet[35] and Tsovinar[36] indicate. Like his predecessor, Argišti II also built two *É.GAL*s, the Razliq[37] and Shisheh[38] near Ahar in Iran, respectively. The Ayanis gate inscriptions mentioned above also mention the construction of ^{m}Rusaḫinili ^{KUR}Eiduru-kai as an *É.GAL* by Rusa III.

The written evidence indicates that a large number of *É.GAL*s were built throughout the Urartian territory and the logogram *É.GAL* used consistently to refer to 'fortress'. However, it should be pointed out that the term was never applied to the major administrative centres constructed in the 7th century BC, such as Toprakkale, Karmir-Blur and Bastam or to the

[34] Salvini 2001b: 252; A 12-9.
[35] A 10-1.
[36] A 10-2.
[37] A 11-4.
[38] A 11-6.

capital Tušpa with the exception of the Ayanis gate inscription, where Rusa III mentioned the construction of an *É.GAL*.

Urartian fortresses/citadels were usually built on steep rocky heights or extensions of mountainous hills and overlooking a plain or a major communication route.[39] For example, centres like Van Kalesi, Bastam, Kayalıdere and Çavuştepe were built on longitudinal rocky mountain ridges above fertile plains. On the other hand citadels such as Karmir-Blur, Körzüt and Altıntepe were built on naturally defensible hills in fertile open plains. These new citadels were built in places where agricultural productivity could be increased with the help of irrigation. However, the main concern with selection of these citadels' location seems to be security, therefore every fortress was built on a naturally defensible hill. For example, roads leading to the Van Plain from east and north east were well controlled and guarded by the construction of new citadels specifically in the Erçek Plain, the Aşağı and Yukarı Anzaf, in the Gürpınar Plain the site of Çavuştepe and in Muradiye Plain the site of Muradiye and Körzüt.

Most importantly, Urartian citadels were usually surrounded by a fortification wall and those walls were built directly onto wide terraces carved out from the natural rock.[40] After masonry bedding was carved out on the slopes, the stone blocks for the foundations walls were laid out. In most cases, fortification walls took the shape of the bedrock that they were built on and extended out onto the slopes of natural bedrock to gain space.[41] Creating terrace walls and cutting into the bedrock indicates the intensive use of labour in the construction of Urartian citadels.

Table 22. The *É.GAL* constructions of the Urartian kings

King	**Texts of É.GAL** (CTU)	**Location**
Išpuini		
	A 2-6A-C	Aşağı Anzaf
	A 2-9A-B	Karahan
Minua		
	A 5-6 Ro (b)	Alazlı/Muş
	A 5-10	Taštepe/Mianduaba

[39] Burney 1957: 40; Çilingiroğlu 2004b: 209; Forbes 1982: 13; van Loon 1966: 38; Salvini 2006: 145.
[40] Urartian defensive walls architecture was divided into two phases; an earlier style of the 8th century, and a later style of the 7th century BC (Kleiss 1994:131). The former is distinguished by its lay out from the later; the plan of citadels is either in square or rectangular corner and curtain-towers, with one to four *risalite* (vertical buttresses); the layout of later fortification walls adjusted to the formation of the terrain which was aimed to achieve the most effective defence with a regular sequence of *risalite* spaced at identical intervals (Kleiss 1994: 132).
[41] Çilingiroğlu 2004b: 209.

	A 5-11A-B; A 5-37; A 5-38	Aznavurtepe
	A 5-25 Ro; A 5-39	Patnos
	A 5-26	Başbulak/Iğdır
	A 5-27	Tsolakert/Taşburun
	A 5-28; A 2-29; A 5-30 Ro; A 5-31 Ro	Karahan
	A 5-33; A 5-36	Güsak/Köşk
	A 5-34	Kevenli/Van
	A 5-35; A 5-56?	Körzüt
	A 5-40A-B	Pirabat
	A 5-41 A-B	Delibaba/Pasinler
	A 5-42A-C-A; 5-43; A 5-62	Yukarı Anzaf
	A 5-47	Kobanis/Van
	A 5-51	Malazgirt
	A 5-52	Başkale
	A 5-61	Qalatgah
	A 5-67	Bostankaya
Argišti I		
	A 8-3 III	*Šurišili*[a]
	A 8-16	Armavir
	A 8-17 A e B; A 8-18 e 19; A 8-20	Arinberd
	A 8-22	Soğucak/Muş
Sarduri II		
	A 9-3 III	*Uraia*[c]
	A 9-3 IV[b]	*Puluadi*[d]
	A 9-3 IV	Eriahi (Leninkan)
	A 9-17	Çavuştepe
	A 9-18	Bahçecik/Karakoçan
	A 9-37	Mollabajazet/Sardarabat
Rusa I		
	A 10-1	Nor-Bayazet
	A 10-2[b]	Tsovinar
Argišti II		
	A 11-4	Razliq/Sarab
	A 11-6?	Shisheh/Ahar
Rusa III		
	A 12-9	Ayanis

Note: ? indicates the presence of a *É.GAL* is not certain, a. south-west periphery of Urartu, b. more than one *É.GAL*, c. South Lake of Urmia, d. The modern village of Seghendel, 30 km west of Ahar in north-west Iran.

III.2.4. Cultic Structures (KÁ / Šeištili, Susi and É.BÁRA)

Urartian inscriptions mention the construction of religious buildings in the same way as the construction of *É.GAL* or *URU* with the verb '*šidištú*' 'to build' (see Table 23). There are several terms for cultic buildings in the Urartian texts such as *É.BÁRA*, *^{É}susi*, *KÁ*/*Šeištili* and *iarani*'[42] (Akkadian *parakku*). The *KÁ* and *Šeištili* are considered to mean 'god gates' while the term *susi* is associated with 'temple' or 'tower temple'.[43] The *KÁ* and *susi* were the dominant types of religious sanctuaries and were built from the reign of Išpuini to the Rusa III period. One notable difference is the construction of *É.BÁRA* (temple)[44] during the reign of Rusa III, which had not previously been mentioned (see Table 23).[45]

The logogram *É.BÁRA* was considered to be the equivalent of the Urartian term *iârane* and denotes Akkadian *parakku* which is translated as 'sanctuary'.[46] However, as noted by Zimansky, there is an indirect link between Akkadian term and its use in Urartu. As pointed out above, Rusa III mentioned in the Bastam inscription that he constructed an *É.BÁRA* and named it as 'Rusai URU.TUR'[47] and it evidently applied to the whole site and just not a religious structure. On the other hand, in the Çavuştepe inscription the construction of an

[42] In the bilingual inscription of Kelishin the term '*iarani*' appears and it has been suggested that it corresponds to the Akkadian *parakku* which refers to a 'chapel' or 'sanctuary' (Benedict 1961: 373; A 3-11 line 5).
[43] Salvini (1979: 579-593) suggested that a *susi* referred to a tower temple and was identical with the Assyrian '*asītu*' or '*isītu*' (CAD, Vol.1 A part II, 333 no. 1, a). In contrast, Diakonoff (1989: 95) argued that the identification of the Akkadian '*asītu*' (literally tower – as part of a city wall) with Urartian *susi* is implausible. He suggests that *susi* means any sanctuary in general.
[44] Harutjunjan 2001: 414; Melishvili 1960: 376.
[45] Close to the Urartian period fortresses - mostly in the Lake Van basin, north-western Anatolia and in north-western Iran- various rock-signs motifs, including the 'circle', 'sickle', 'hook', 'U' and 'V'-shaped signs (Figure 62) were reported by Belli and described as 'monumental rock signs' (Belli 1989: 65-88) Belli argued that their positions and appearances indicate that they were used as cult centres for religious purposes. Alternatively, Erkan Konyar has recently compared the signs with chariots components and suggests the signs were used as moulds for shaping the wooden parts of chariots and for making agricultural tools and furniture parts (Konyar 2006: 113-126). However, as Konyar admits, not all rock signs fit with his suggestion and that they vary in their size and shape. Therefore, the exact functions of rock signs remains open to debate and the lack of precise evidence inevitably limits our ability to draw firm conclusions about their functions. In addition the precise dating of them is difficult, because of the post-Urartian remains at the centres where the signs exist. Even if one considers them as Urartian there is neither archaeological nor textual evidence to suggest that they were associated with ritual activity. Perhaps Konyar suggestions that the rock signs had a utilitarian function is the most plausible explanation regarding their purposes.
[46] Diakonoff 1991a: 13 no. 3.
[47] A 12-7.

É.BÁRA is mentioned in the same text as an *É susi* for the god Irmušini (Figure 57).[48] Again in the Ayanis gate inscription the construction of an *É.BÁRA* is mentioned together with an *É.GAL*.[49] However, in the Ayanis case the term might refer to 'temple area' which is located at the highest point of the citadel[50] similar to other Urartian temples that have been uncovered at sites such as Yukarı Anzaf, Kayalıdere and the Çavuştepe Upper citadel.

Usually most of the cultic structures were dedicated to the god Haldi and other lesser local deities. For instance, the Çavuştepe temple inscription (A 9-17) states that Sarduri II built an *É susi* for Irmušini and an *É.BÁRA* for Haldi. An inscription from Arinberd (A 8-21 A-B) dated to the reign of Argišti I mentions the construction of an *É susi* for god Iubša and the Mahmud Abad inscription (Figure 59) of Rusa I (A 10-6) the construction of the gate of the god Šebuti.

Archaeological evidence shows that Urartian temples were characterized by a courtyard with a square plan and a small square *cella*.[51] Although the dimensions of each temple from the Urartian period differ, their basic plans show similarities which are listed in table 24. The *cella* was located in the middle or at the back of the courtyard and consisted of a single room with towers or buttresses in the corners. But there were various rooms or storage depots in the temple courtyard. Such temples have been uncovered from the sites such as Yukarı Anzaf[52], Anzavurtepe/Patnos[53], Kayalıdere (Figure 51)[54], Çavuştepe main and Upper citadel[55], Altıntepe (Figure 48)[56], Toprakkale[57], Ayanis (Figure 47)[58], Bastam[59] and Werachram (see Table 24).[60] Moreover two also known from inscriptions at the sites of Karmir-Blur[61] and Körzüt.[62] The relief that depicted the sacking of the Haldi temple at Mušašir by Sargon II also illustrates an Urartian temple (Figure 46) (see II.3.4.2 for more detail).[63] Archaeological

[48] A 9-17
[49] A 12-9
[50] Çilingiroğlu 2011b: 1057.
[51] There have been a number attempts to reconstruct the temple structure. Özgüç (1966: 40-41 Fig. 1) restored the Altıntepe temple as a high structure with a flat roof (Figure 49), while Akurgal (1968: 13-17 Fig. 1) based on the Kef Kalesi reliefs reconstructed it as a high building with few floors and a flat roof. Tarhan and Sevin (1975: 389-412) draw parallels with rock-cut niches and temple façades.
[52] Belli 1999a: 24-28.
[53] Balkan 1960: 99-131.
[54] Burney 1966: 68-75.
[55] Erzen 1988: 8-9; 1978: 1-5.
[56] Özgüç 1966: 39-44.
[57] Erzen 1962: 383-414.
[58] Çilingiroğlu 2001: 37-65.
[59] Kleiss 1972: 32-34.
[60] Kleiss 1974: 91.
[61] Salvini 1979b: 249-269.
[62] Dinçol 1976: 19-30.
[63] Botta and Flandin 1849: Pl. 141.

excavations and Sargon II's account of the sacking of the Haldi temple at Mušašir reveal that Urartian temples were lavishly adorned with various metal artefacts (see chapter II.3).

Temple complexes uncovered in citadels built by Urartian rulers are likely to have been accessed by only a few individuals, as opposed to rock-cut niches or open-air shrines which were probably intended to serve the general public. Rock-cut niche monuments in the Urartian kingdom were built in the form of three tiered niches and cut into the living rock with an inscription usually carved into the flattened surface. The known examples date to the 9th century BC and are usually located at the foot of massive outcrops. Three rock-cut niche monuments have been attested at Meher Kapısı (Figure 43)[64], Yeşilalıç (Figure 44)[65] and Hazinepiri Kapısı.[66] All of these monuments were built at commanding positions beneath prominent rock spurs. In contrast to Meher Kapısı and Yeşilalıç, Hazinepiri has a shallow rectangular niche, while the former are framed by three tiered rectangular niches. At Yeşilalıç there are the remains of stairs cut into the bedrock leading to a platform, and also six rock-cut sockets for stelae which shows that these were also a feature of open-air shrines. All three rock-cut niches are inscribed and are situated in prominent locations that are generally higher than the surrounding ground. The flat platforms are fairly small which suggests that rituals were performed by a select few individuals. These open-air shrines are dated to the reign of king Išpuini and coincided with the first few decades of the kingdom as well as to the introduction of Urartian state religion. Therefore these structures would have been vital to the establishment and popularization of the newly created state religion and, most importantly helped to define the concept of kingship and strengthen his legitimacy through participation in ceremonies in front of a large audience.

The erection of stone stelae (*pulusi*) by the Urartian kings was also a widespread practice. Urartian kings recorded their military campaigns, conquests, building activities, water facilities, planting of new vineyards and orchards on such stelae, and dedicated them to the gods; in particular to Haldi, the supreme god. But the Urartians also made dedications to other gods such as Teišeba (A 5-81, A 10-7), Šiuini (A 5-80 / UKN 95), Ḫuṭuini (A 5-79 / UKN 94) and Ua (A 2-9A-B). The first stele was erected during the reign of Išpuini but most of our surviving examples were erected by his son Minua.

There are also a number of open-air shrine sanctuaries in Urartu with stelae. For example at the open-air shrine of Altıntepe a row of four stelae measuring 1.00 m long and

[64] Salvini 1994: 205-210; Belli 1999a: 29-33.
[65] Sevin and Belli 1976/77: 367-393.
[66] Belli and Dinçol 1980: 174-179.

0.70 m wide was erected with a round altar in front of them (0.50 m in diameter).[67] The stelae recovered by Özgüç were without any signs, inscriptions or representation, but a stamp seal impression from Toprakkale illustrates a priest standing in front of three stelae and a sacred tree which suggests that the Urartians performed ceremonies before them.[68] The construction of religious structure is only mentioned in the Karahan stelae (A 2-9 A-B) of Išpuini, as a *ṭeribišuzi*[69] in Haldini URU (the city of Haldi) and translated as 'shrine of the stele'[70] is perhaps a similar structure to the Altıntepe open-air shrine.

Table 23. Cultic structures

King	***Susi***	***KÁ* (CTU)**	***É.BÁRA***	**Location**
Išpuini				
	-	A 2-9 A-B	-	Karahan
	-	A 3-1	-	Meher Kapısı
	A 3-2	-	-	Yeşilalıç
	-	A 3-3	-	Muchrapert/Van
	-	A 3-10?	-	Qalatgah
	A 3-12[a]	-	-	Patnos?
	A 4-1	A 4-1	-	Tabriz Kapısı/Van Kalesi
Minua				
	-	A 5-2A-B[b]	-	Körzüt
	-	A 5-2C-D-E[b]	-	Muradiye
	-	A 5-11A-B	-	Aznavurtepe
	-	A 5-25 Ro	-	Patnos?
	-	A 5-27	-	Tsolakert/Taşburun
	-	A 5-28 Ro; A 5-30 Ro; A 5-31 Ro	-	Karahan
	-	A 5-33	-	Güsak/Köşk
	-	A 5-37	-	Aznavurtepe/Patnos
	A 5-42A-C; A 5-43	-	-	Yukarı Anzaf
	-	A 5-44; A 5-45A-B[c]; A 5-46A-B	-	Kevenli/Şuşanıs-Van
	A 5-47	A 5-47; A 5-48	-	Kohbants/Van
	-	A 5-50	-	Ahtamar/Van
	A 5-51	-	-	Malazgirt
	A 5-52	-	-	Başkale/Van

[67] Özgüç 1969: 73-74, Figs. 29-30, 31; Pl. XXVI, XXVII.
[68] Lehmann-Haupt 1931: 549.
[69] Harutjunjan (2001: 466 and 469) reads '*teribišuzi*' in two different forms: '*teribi*' 'monument' and '*šuzi*' which modifies the '*teribi*'.
[70] Salvini reads as 'NEribi(-)šuri' (Salvini 1993: 545-547).

Argišti I				
	A 8-21 A-B	-	-	Arinberd
	A 8-22	-	-	Soğucak/Muş
Sarduri II				
	A 9-16	A 9-15; A 9-16	-	Armavir
	A 9-17	-	-	Çavuştepe
	A 9-18	-	-	Bahçecik/Karakoçan
Rusa I				
	-	A 10-1	-	Nor-Bayazet
	-	A 10-6[d]	-	Mahmud Abad
Rusa III				
	A 12-1 I	A 12-1 I	-	Ayanis
	A 12-2 I	A 12-2 I		Karmir-Blur
	-	-	A 12-2 II	Karmir-Blur
	-	-	A 12-4 II	Adilcevaz/Kef Kalesi
	-	-	A 12-7	Bastam
	-	-	A 12-9	Ayanis

Note: **a.** It comes probably from Patnos and is preserved in the Museum of Anatolian Civilizations (Anadolu Medeniyetleri Müzesi) for [built [a temple Lord (?) of the god Ua] (5-6) [to perfection, **b.** Salvini's reconstruction of the text Salvini 2008: 184-185, **c.** Šeštili Kevenli/Şuşanıs, **4.** Mahmud Abad inscription, construction of the Gate of šebuti.

Table 24. Urartian Temple Complexes

Site	Temple Complex	Core Temple	Cella	References
Altıntepe	27 x 27	13.80 x 13.80	5.20 x 5.20	Özgüç 1966: 39-44
Armavir	-	13.80 x 13.80	-	Karapetyan 2010: 36-43
Ayanis	30 x 30	12.75 x 13 .00	4.58 x 4.62	Çilingiroğlu 2001: 37-65
Bastam	-	13.80 x 13.80?	-	Kleiss 1972: 33
Patnos/Azanvurtepe	-	13.50 x 13.50	5 x 5	Balkan 1960: 136; Boysal 1961: 201
Çavuştepe Irmušini	21.5 x 21.5	10 x 10	4.50 x 4.50	Erzen 1988: 8-9
Çavuştepe Upper Citadel	-	12.50 x 12.50	4.50 x 4.50	Erzen 1977: 7-8
Kayalıdere	-	12.50 x 12.50	5 x 5	Burney 1966: 68-69
Toprakkale	-	13.80 x 13.80	5.30 x 5.30	Erzen 1962:401-402
Upper Anzaf	-	13.40 x 13.40	-	Belli 2003: 8
Werachram	-	11.50 x 11.50?	5.50 x 5.50?	Kleiss 1974: 91

III.2.5. Other Buildings

In Urartian inscriptions there are other types of construction activities such as *burganani, barzidibiduni, É,* and *ašiḫusi,* that are mostly dated to the 8th century BC. In some inscriptions the building of *ašiḫusi* and *barzidi*(*i*)*duni* were also associated with granaries or silos. A *ašiḫusi* building is mentioned in the Kef Kalesi inscription (A 12-10 line 2) and on a *bullae* from Ayanis[71] found in association with a granary. This building is also mentioned on other occasions in inscriptions dating to the reigns of Minua, Sarduri II and Rusa III and has been interpreted as a pillared hall (see Table 25). Altan Çilingiroğlu argued that *ašiḫusi* refers to a pillared hall that may have had storage rooms by referring to the pillar hall located on the east side of Ayanis temple complex.[72] According to him, thus the eastern storage area of Ayanis, where the pillared hall was uncovered, was a temple storage facility.[73] In contrast, Emin Bilgiç and Baki Öğün[74] suggested that the *ašiḫusi* was a 'place of cult for drinking sacrifice', but Salvini has dismissed this suggestion and proposed an alternative translation for *ašiḫusi.* He pointed out that an inscription of Sarduri II from the site of Arinberd (A 9-20 / UKN II 419)[75] associated the *ašiḫusi* building with the *'ari* storage rooms of Arinberd[76] and argued that the *ašiḫusi*[77] building was an important representation building with columns, according to the Kef Kalesi relief. However, on the other hand, there are significant architectural similarities between the Ayanis eastern storage area and the Bastam, Karmir-Blur (Room 25) and Armavir storage facilities. Although they differ in size, in the case of Ayanis, storage Room 25 at Karmir-Blur[78], Bastam[79] and Armavir[80] they were all located within a pillar hall (see II.1.7.1). Therefore, it is probable that the *ašiḫusi* building is somehow associated with general storage facilities and not just a temple storage room as suggested by Çilingiroğlu.[81]

The construction of *barzidi*(*i*)*duni*[82] is mentioned in one of the inscriptions of Sarduri II from Armavir, where the *'ari* was mentioned with it.[83] Other inscriptions mentioning the

[71] CB Ay-51.
[72] Çilingiroğlu 2007: 44.
[73] Çilingiroğlu 2007: 44.
[74] Bilgiç and Öğün 1965: 18.
[75] Arinberd inscription of Sarduri II states as follows '(lines 5-7) *i-ni É-ši-ḫu-si za-du-ni é-'a i-ni-li 'a-ri-li šú-'a-li*' '*he built this ašiḫusi building and made these silos*' (Salvini 1998b: 126).
[76] Salvini 1998b: 126.
[77] See for morphological analyses of *ašiḫusi* in detail Salvini 1998b: 124-126.
[78] Piotrovsky 1952: 18, Fig. 2.
[79] Kleiss 1979: 76-77, Fig. 86, Pl. 21.
[80] Martirosyan 1974: 50, Fig. 31.
[81] Harutjunjan (2001: 437-438) translates it as 'offering house(?') or 'altar(?)'.
[82] Harutjunjan (2001: 440) reads as'slaughterhouse', but Salvini (1998b: 127) points out that *barzidibiduni* occurs in Urartian inscriptions only on few occasions on erratic stone inscriptions therefore it is hard know exactly what it stand for.

construction of *barzidi*(*i*)*duni* are all dated to the reign of Minua and there is no connection with storage facilities in its construction (see Table 26). Similarly the construction of *burganani* only appears in Išpuini and his son Minua inscriptions and the meaning of is uncertain (see Table 27).[84]

Lastly the logogram *É*, which usually appears with verb '*zadúni*'[85] or in some cases with '*šidištúni*'[86] appears to (see Table 28) refer to a structure and translates as 'building' or 'house'.[87] Although in Urartian inscriptions the *É* usually appears as a determinative indicating that it belongs to a type of buildings such as ^{É}*ašiḫusi*, ^{É}*barzidi(i)duni*, ^{É}*susi*, or *É.BÁRA* as opposed to other structures it is not just confined to the 8th century BC but also appears in the 7th century BC. Zimansky[88] pointed out that most of the *É*s were mentioned on round column bases and suggests that the *É* was some kind of specific structure which contained one or more columns.

Table 25. Urartian kings and *asiḫuše*

King	**Texts (CTU)**	**Location**
Minua		
	A 5-65A	Van
	A 5-65B	Yedikilise/Van
	A 5-65C	Hurkum/Van
Argišti I		
	A 8-30	Armavir
Sarduri II		
	A 9-20	Arinberd
Rusa III		
	CB Ay-51	Ayanis
	A 12-10	Kef Kalesi

Table 26. Urartian kings and *barzudibiduni*

King	**Texts (CTU)**	**Location**
Minua		

[83] Salvini 1998b: 127; A 9-19 line 5.
[84] Melikishvili (1960: 53 and 392) reads as [*burgana*] *burgalali* (*burganali*) 'fortress('?); Harutjunjan (2001: 441) 'castle' or 'fortress'.
[85] For example A 5-54, A 5-55A, B, C, D, E.
[86] For example Aşağı Anzaf inscriptions of A 2-7A-B and A-2-8.
[87] Meliskihvili 1960: 376.
[88] Zimansky 1985: 70.

	A 5-60	Van
	A 5-61	Qalatgah
	A 5-62	Yukarı Anzaf
	A 5-63	Yedikilise/Van
	A 5-64	Değirmenköy/Van
Sarduri II		
	A 9-19	Armavir

Table 27. Urartian kings inscriptions and *burganani*.

King	**Texts (CTU)**	**Location**
Išpuini		
	A 2-1	Kalecik
	A 2-9 A-B	Karahan
	A 3-11	Kelishin
Minua		
	A 5-28; A 5-29; A 5-30 Ro	Karahan

Table 28. Urartian kings inscriptions and the occurrence of É.

King	**Text of É (CTU)**	**Location**
Išpuini		
	A 2-1	Kalecik
	A 2-2A, B, C, D, E, G	Zivistan (Elmalı)
	A 2-7 A-B; A 2-8	Aşağı Anzaf
Minua		
	A 5-36	Güsak/Köşk-Muradiye
	A 5-53; A 5-54; A 5-55A, E	Van
	A 5-55B	Yedikilise/Van
	A 5-55C	Malazgirt
	A 5-55D	Patnos
	A 5-57[a]	(British Museum)
Argišti I		
	A 8-18; A 8-19	Arinberd
	A 8-23A-D; A 8-24	Arinberd
	A 8-25	Gazandži/Erevan
	A 8-26	Sardarabat

	A 8-39	Armavir
Sarduri II		
	A 9-15	Armavir

Note: **a.** The original location of this inscription is not known and currently it is in the British Museum.

III.2.6. Conclusion

One of the priorities of Urartian rulers was to build new centres for economic, administrative, and military functions as well as for the storage of agricultural products across different, strategic parts of their territory. As demonstrated above, the textual evidence of Urartian kings shows that, over time, changes may have occurred in terms of the geographic distribution of such projects as well as the kinds of projects that were undertaken. The construction of *É.GAL* was first attested during the reign of Išpuini, when they were built in the Lake Van basin but it was during the reign of his son Minua that construction was expanded over much of the kingdom, and afterwards they were more commonly associated with frontiers. In contrast, the construction of *URU*s seems to have been concentrated in the heartland of the kingdom. Work undertaken to improve agricultural production, including water facilities, planting orchards, vineyards, and fields as well as storage structures show that landscape improvement was also a task undertaken by the monarch throughout the history of the kingdom, as far as can be established. However, most of those projects were confined to Lake Van, and some parts of the Lake Urmia basin and Ararat Valley, and the absence of any of such projects from the Elazığ region is noteworthy. Cultic structures, in particular *Susi* and *KÁ*, seem to have been built throughout the kingdom from the reign of Minua to the reign of Rusa III with the exception of É.BÁRA which, as far as can be established, seem only to appear during the reign of Rusa III. The *KÁ*s appear to be more evenly distributed in space and time than other types of cultic structures.

It is interesting to note that there is no correlation between the number of building projects (see tables 21, 22, 23, 25, 26, 27 and 28) and the number of deportees (see Table 30), even though war captives have usually seen as a source of unskilled and skilled labour for the construction activities of the monarch (see III.4.4). Urartian territorial expansion mostly occurred over a short period of time during the reign of kings Minua, Argišti and Sarduri II and, after the initial expansion of the kingdom, the military campaigns added relatively little new land. King Minua was the most prolific in terms of building activities as far as can be

determined from the cuneiform inscriptions, but only on a few occasions did he note the number of deportees. On the other hand Argišti I and Sarduri II are the most energetic kings when it came to recording the number of deportees but the number of building projects recorded by both kings is far less than Minua's own projects.

Insofar as it can be established by the textual evidence, there appears to be a big difference in the number of projects that were undertaken by the Urartian monarchs between the 8th and 7th centuries BC. The number of projects recorded in the 8th century during the reign of Minua outnumbers the combined construction activities of all of the 7th century kings. However, we know that major construction projects such as Argištiḫinili and Erebuni were built during the reign of Argišti I, and therefore a comparison with earlier period projects undertaken by Minua would be misleading. Major settlements such as Karmir-Blur, Ayanis, Kef Kalesi and Bastam that symbolised Urartian history were all built during the 7th century BC. Zimansky[89] suggested that any differences in the number of building inscriptions between the 8th and 7th centuries BC might reflect changes in recording practices rather than a lack of building activities undertaken by later rulers.

[89] Zimansky 1985: 62.

III.3. THE ARMY

III.3.1. Introduction

Urartian inscriptions that deal with military expeditions contain information relating to such things as conquered lands, the occasional reorganisation of annexed territories and, most importantly, the booty and tribute taken from the enemy (see Chapter III.4). Despite being very close to destruction at a number of critical periods in its history, such as their defeat at the hand of Assyrian king Sargon II, the Urartian kingdom not only survive it also became one of the greatest political and military powers in the ancient Near East. There is no doubt that this was due to its army, administrative organisation and also perhaps the uniqueness of its mountainous geography. Information on the military organisation of the Urartian kingdom comes from many different documents. The annals of Urartian kings are the most important sources for the study of the military and its activities. These inscriptions, ranging from the reign of Išpuini and his son Minua to the end of the kingdom, contain various details such as the types of troops. Archaeological evidence from Urartian sites is also taken into consideration in terms of the large quantity of weapons and armour. Neo-Assyrian administrative letters also present us with invaluable information for the military organisation and structure of the Urartian army. This chapter therefore aims to present a detailed examination of the Urartian army and its role in the socio-economic development of Urartian society.

III.3.2. Urartian Gods and Their Role in the Army

The god Haldi features predominantly in Urartian cuneiform inscriptions that deal with military campaigns. He appears as a warrior god leading the army with his weapons. Haldi was more than just a supreme god; he was the protector of the kingdom and a symbol of the Urartian dynasty (see III.5.2). Urartian kings usually claimed that their military successes were due to his support and efforts and he appears to overshadow the king and the army. On the Meher Kapısı inscription Haldi was not just honoured with sacrifices but a number of animals were also dedicated to his weapons, power and might (see II.2.4 for more detail). A cuneiform inscription of Argišti II from the village of Shisheh in north-west Iran also states that he constructed a garrison '*irdusi'* for the protection of the god Haldi.[1]

[1] Khanzaq *et al.* 2001: 36; A 11-6.

There are numerous examples of votive artefacts such as helmets, shields, quivers, and spearheads from Urartian temple complexes (see Chapter II.3). Therefore it is not surprising to find that numerous cuneiform inscriptions state that the god Haldi attacked the enemy with his own weapon, the *šuri*.[2] The discovery a lance/spear in the Ayanis reception hall with an inscription dedicated to Haldi has been considered to be his *šuri*.[3] The inscription on the lance records:

'*To Haldi, lord, Rusa, son of Argišti, made and dedicate this lance/sword* (*šuri*) *for his life*'.[4]

The relationship between Haldi and his weapons is also illustrated on bronze artefacts. For example, a bronze shield uncovered in the Haldi temple at Yukarı Anzaf shows a row of 12 gods and a battle scene, in which Haldi is depicted with a weapon that appears to be a throwing spear in his right hand while a similar spear appears to have been thrown at the enemy (Figure 71a).[5] Since the cuneiform inscription on the shield states that it was dedicated to Haldi it is accepted that the figure portrayed is that of Haldi himself. In his left hand he holds a bow, with a sword at his waist and he wears a conical helmet unlike other gods whose helmets are shown with horns. Other divinities in the Urartian pantheon appear to have shared similar features with Haldi to some extent. Teišeba and Šiuini, the second and third gods in the Meher Kapısı inscription, respectively, like their Hurrian counterpart are also portrayed as warrior gods.

There is evidence to show that apart from the triad of Haldi, Teišeba and Šiuini, lower ranked deities such as Šebitu and Artuarasau also played an important role in military expeditions. In the Mahmud Abad inscription (Figure 59), near Lake Urmia, Rusa I stated that when a king plans for a military campaign he has to perform a sacrificial ritual to the gods Šebitu and Artuarasau, the local deities of the Lake Urmia region.[6] The etymology of the name of the god Ḫutuini, ranked fourth in the Meher Kapısı inscription, is considered to be mean 'the force of victory'[7] which indicates that it might too have played an important part in the campaign, although his name is not mentioned in relation to any military records.

[2] A 3-9 / UKN 24; A 5-1 / UKN 30; A 5-5 / UKN 39; A 5-9 / UKN 28; A 5-1 IB / UKN II 373; A 8-1/ UKN 128 A3; A 8-11/ UKN 128 A1; A 8-1 Vo / UKN 128 A2; A 8-2 Ro / UKN 128 B2; A 8-8 / UKN 131; A 9-1 Vo /UKN 156 BI; A 9-3 I / UKN 155 A; A 9-3 II /UKN 155 C.
[3] For detail see Çilingiroğlu and Salvini 1999: 55-60.
[4] Çilingiroğlu and Salvini 1999: 55-60.
[5] Belli 1999a: Figs. 17-18.
[6] Diakonoff 1989: 91; A 10-6.
[7] Salvini 1994: 206.

III.3.3. The Division of the Army Units

Four inscriptions by Urartian kings give information about the divisions of army and the number of troops in each. Two of them contain identical numbers and are likely to refer to the same expeditions. These inscriptions divided the army into three main branches; chariotry ($^{GIŠ}GIRGIR^{MEŠ}$), cavalry ($PIT\text{-}HAL\text{-}LU^{MEŠ}$) and infantry ($^{LÚ}ÉRIN^{MEŠ}$).[8]

III.3.3.1. $^{GIŠ}GIRGIR^{MEŠ}$ (Chariotry)

Although there are only a few references to use of chariots in Urartian sources, numerous Urartian belts, helmets, shields and quivers are illustrated with chariots on military parades, in hunting and war scenes. There are also a great number of bronze chariot fittings such as axle caps, linchpins, rein rings, yokes, yoke terminals and saddles with inscriptions mainly from the reign of Išpuini and his son Minua along with inscribed objects with the names of Argišti I and Sarduri II. There are indications that horses were reared under state supervision in specific areas of the kingdom both for chariotry and cavalry (see II.2.3). The early chariots of the 9th and 8th centuries BC were fitted with small wheels of six spokes, and were relatively small. Later chariots differed from earlier ones in that their wheels were eight spokes and they were yoked. The wheels were comparatively large and were inserted directly into the hub. Later chariots must have been heavier than earlier chariots. It is not clear why the Urartians changed from one form to the other, heavier type, but being more stable it might have been easier to accommodate more weapons on a bigger platform.

Chariots were also likely to have been preserved for noblemen and regarded as symbols of status, power and prestige. An administrative tablet from Toprakkale (CT Tk-1 / UPD 12), listed a total of 1,113 *mare*-men including 104 *tardašhe* (officers) and 1,009 *kirinei* (rank and file charioteers) among the other palace personal at the top of the list.[9] Further evidence regarding *mare*-men is mentioned in a cuneiform tablet from Karmir-Blur, where it is stated that *mare*-men may make offerings from the *serhane*-house to the Haldi temple and gates.[10] Igor M. Diakonoff associated *mare*-men with Hurrian *marianne*-men who were charioteers. If this correlation is accepted it is quite plausible that they constituted a group of aristocratic warriors from the most privileged class in Urartian society.

[8] A 3-5 Ro / UKN 21-22; A 3-9 / UKN 24; A 9-3 VII / UKN 155 G.
[9] Diakonoff 1989: 99.
[10] Diakonoff 1991a:13-21 and no 27.

The rough terrain of Urartian territory must have meant the use of chariots on the battlefield would have been very difficult and limited to certain terrains. With the relatively small size of the chariotry in contrast to the cavalry mentioned by Išpuini and Sarduri II (see III.3.4), it is clear that the rough terrain of eastern Anatolia and north-west Iran limited the use of chariots or that they lost their importance because the training of the charioteers, as well as making the vehicles and providing of horses is likely to have been costly. Cavalry therefore must have been preferred to chariotry when campaigning in the mountainous highlands of Urartian territory.

III.3.3.2. *PIT-HAL-LU*^{MEŠ} (Cavalry)

As in the case of chariotry very little is known about the size and composition of the cavalry contingent of the Urartian army other than what can be taken from the Išpuini and Sarduri II inscriptions. It is reasonable however to assume that cavalry was the most important division of the army, when one considers the extensive mountainous terrain of Urartu. Horsemen were regularly depicted on bronze artefacts such as belts, helmets and quivers. Horses were likely to be furnished with discs, blinkers frontlets and collars.[11] Riders were equipped with weapons similar to those used by the infantry including the bow, spear and shield as illustrated on various bronze artefacts (see II.3.4.2 for detail of various wepaons).[12] Although the structure of the Urartian cavalry is not known, Sargon II mentions that towards the end of his Urartian campaign he detached a unit of '*1000 fierce horsemen, bearers of bow, shield and lance*' which he commanded from his chariot, on his way to Mušašir.[13]

Assyrian king Sargon II in his account of eighth expedition referred to Urartian cavalry as a class of warriors who were recruited from 'royal seed': '*I defeated Ursa* (*Rusa*), *the Armenian,* (*killing*) *countless* (*of his people*). *260 of his royal seed, who* (*constituted*) *his cavalry, I captured with my own hand*'.[14] In his 'letter to the god Assur' Sargon also mentioned the Urartian nobility and in particular their role in cavalry.[15] Sargon's account shows that soldiers for the cavalry were chosen from among the tribesmen or from the king's tribe and it is reasonable to think of these members of nobility acted as councillors to the king.

[11] Merhav 1991b: 53-78, 1991c: 97-113; Seidl 1991: 79-96.
[12] Kellner 1991a: Pl. 43 no. 174; Seidl 2004: Figs. 29, 32, 56, 107.
[13] ARAB II 170.
[14] ARAB II 20 and 154.
[15] ARAB II 154.

III.3.3.3. $^{LÚ}ÉRIN^{MEŠ}$ (Infantry)

Foot soldiers were equipped with shields, helmets and swords in addition to bows, arrows and javelins or spears like those of the cavalry. The infantry must have provided the bulk of the armed forces and was probably divided into units of spearmen and archers as the Sargon II's account indicates. '*His warriors, the mainstay of his army, bearers of bow and lance, I slaughtered about his feet like lambs, I cut off their heads*'.[16] A parade scene illustrated on the fragments of a belt dating to mid-8th century BC[17], shows foot-soldiers bearing quivers, bows and arrows as well as lances, shields, and swords attached to their waist (Figure 77). This is consistent with Sargon II's description of the Urartian infantry. Horsemen and charioteers are depicted on the upper row with repeated scenes.

A cuneiform tablet from Yukarı Anzaf (CT An-1) also gives information about foot soldiers and their weapons. The number of weapons given to each warrior differs. Each man carried between 20 and 30 arrows and a bow – with the exception of Eriuqu who received 2 bows and a man named KikaMAH, who differed from the others because of a lance in addition to arrows and a bow.[18] Some were given just arrows, such as Arilụṭuqu, Urueda and Išpiqulu, although the number of arrows varied. Others like Unkanu, Nurubi, Uruadi and Ḫuštu along with receiving arrows were also each given a bow. Although the distribution of weapons was connected with a sudden enemy attack or an imminent danger[19], the numbers of weapons listed are too small for the defence of a citadel like Yukarı Anzaf. The tablet does not explain the reason for the distribution of weapons. One might argue that the weapons were given to soldiers as a decoration of bravery, courage or promotion or where the warriors were simply given their usual service weapons to be carried as part of their duties from state armoury of '*urišḫusini'* (see II.3.4.2). Whatever the reason might be for the distribution of these weapons, it is clear that the listed men were archers. Although we do not have any information about how the Urartian army acquired its military weapons or supplies, this text demonstrates that state supplied their weapons.

III.3.4. The Size and Structure of the Army

[16] ARAB II 154.
[17] The bronze fragments of belt are in Munich *Prähistorische Staatsammlung Museum* inv. no. 1971, 1666 and 1781 (Kellner 1991a: 35).
[18] CT An-1 lines 21-22.
[19] Belli and Salvini 2003: 152.

The number of troops mentioned differs widely from text to text and our sources are inadequate for a reliable estimate about the number of troops that were commanded by Urartian kings at any time.[20] Therefore it is hard to establish fluctuations in the size of the army throughout the history of the kingdom. On the one hand the number given by Išpuini in the Kasımoğlu (66 chariots, X430 cavalry and 15,760 infantry)[21] and Karagündüz (106 chariots, 9,174 cavalry and X2,704 infantry)[22] inscriptions seem to be reasonable for a single military expedition. On the other hand the number of troops for a standing army mentioned in the Sarduri II inscription of Analıkız at Van Kalesi[23] carved into rear wall of niche as part of his annals are very high.

The text contains not only a high number of troops but livestock, weapons, goods were also listed. The opening line of the inscription announced that Sarduri II accomplished these things when ascending the throne. There are different views about how to translate the text, in particular the words *ardâie, isiuše* and *túrubi.* It is therefore important to analyse the text in detail and the various opinions expressed about its interpretation[24] in order to evaluate its importance not just for the army but for the whole of the Urartian society.[25] Hence I am presenting the transliteration and translation version of the text here to allow comparison between the different translations put forward by different scholars.

1) ^{D}ḫal-di-i-ni-ni al-su-i-ši-ni ^{mD}sar$_5$-du-ri-i-še ^{m}ar-giš-ti-e-ḫi-ni-še a-li-e
2) i-ú ^{D}ḫal-di-iš-me MAN-tú-ḫi a-ru-ú-ni na-ḫa-a-di ^{LÚ}AD-si-ni e-si-i MAN-tú-ḫi-ni
3) a–li ar-da-i-e i-ni i-si-ú-še ^{KUR}šú-ra-a-ni e-di-ni tú-ru-ú-bi 92 ^{GIŠ}GIRGIR^{MEŠ}
4) 3 LIM 6 ME PIT-ḪAL-LU^{MEŠ} 35 a-ti-bi 2 LIM 11 ^{LÚ}ÉRIN^{MEŠ} e-’a PIT-ḪAL-LU^{MEŠ}-e-i
5) e-’a ^{LÚ}ÉRIN.GÍR^{MEŠ} –e-i i-na-ni ar-da-i-e ^{LÚ}A.SI^{MEŠ}-na-ni e-di-ni tú-ru-bi
6) a–li i-si-ú-še ma-a-nu ḫu-šú-bi 1 ME 21 ^{LÚ}UN^{MEŠ} 10 LIM 4 ME 8 ANŠE.KUR.RA^{MEŠ}
7) 1 ME 32 ANŠE.GÍR.NUN.NA^{MEŠ} 10 LIM 2 LIM 3 ME 21 ^{GU4}[ÁB] ^{MEŠ} 9 LIM 36 ^{GU4}pa-ḫi-i-ni-e^{MEŠ}
8) PAP [20] LIM 1 LIM 3 ME 57 ^{GU4}pa-a-ḫi-i-ni-e^{MEŠ} 30 LIM 5 LIM 4 ME 67 ^{UDU}šú-še-e^{MEŠ}

[20] Zimansky 1985: 55.
[21] A 3-5 Ro-Vo / UKN 21 and 22.
[22] A 3-9 Ro-Vo / UKN 24.
[23] A 9-3 VII / UKN 155 G.
[24] Zimansky (1985: 55) noted that the difficulties of the text lie in our ‘...ignorance of the Urartian language’ and not because of the ‘damage’ or ‘incompleteness’ of the text itself.
[25] The text analysed in great detail by Zimansky (1985: 55-57) and since then Diakonoff (1991a: 17-21) and recently by Salvini (2008: 430-431) also re-analysed.

9) 2 LIM 1 ME 14 BE-LI^{MEŠ} gu-nu-ši-ni-e-i 1 LIM 3 ME 32 ^{GIŠ}BAN^{MEŠ} 40 LIM 7 LIM 9 ME 70 ^{GIŠ}GAG.TI^{MEŠ}

10) 1 ME 2 a-ti-bi 2 LIM 1 ME 33 ka-pi ŠE.PAD^{MEŠ} 1 ME 11 a-qar-qi GESTIN^{MEŠ} 86 a-qar-qi 7 ṭi$_5$-ru-si man-ka-li Í^{MEŠ}

11) 7 LIM 79 MA.NA-e URUDU^{MEŠ} 3 ME 36 ÍR$^{MEŠ\ LÚ}$ú-ru-ur-da-a-ni e-di-ni tú-ru-ú-bi

12) ^{mD}sar$_5$-du-ri-i-ni ^{m}ar-gi-iš-ti-e-ḫi MAN DA-NU MAN al-su-ú-i-ni

13) MAN šú-ra-a-˹ú˺-e MAN ^{KUR}bi-a-i-na-˹ú˺-e MAN MAN^{MEŠ}-ú-e a-lu-si ^{URU}ṭu-uš-pa-e URU

(1-3) Thanks to the greatness of Haldi, Sarduri, son of Argišti. When Haldi gave me the kingship I set on the paternal throne of the kingship.

(4) 92 chariots (of war), 3,600 riders, 352,011 soldiers on horseback and on foot, (5-6) from this *ardaie* for the soldiers *turubi*, which (?) (*husubì*) discarded (throw away(?).[26]

(6-9) 121 people, 10,408 horses[27], 132 mules[28], 12,321 cows, 9,036 oxen a total of 21,357 cattle and 35,467 sheep, 2,114 weapons of war, 1,332 bows, 47,970 arrows.

(10) 122,133 *kapi* of barley[29], 111 *aqarqi* of wine and 86 *aqarqi* and 7 *tirusi* of *mankali* oil, (11) 7,079 copper minas[30], 336 servants[31] *turubi ururda*.

(12-13) (I) Sarduri, the son of Argišti, mighty king, great king, king of Biainili, king of kings, lord of the City Tušpa' (A 9-3 VII).

Salvini found it hard to translate *ardâie, isiuše* and *túrubi*[32], and disagreed with the interpretation of the verb *túrubi* as 'annihilation' and believed the verb had to have a different sense or was derived from a different verbal homophone. The verb *túrubi*, a third person

[26] Line 5 also have been translated by Diakonoff (1963b: 56-57) as follows: '*I eliminated for(?) from(?) the soldiers. I destroyed, what was burden (?), I threw away'* and Melikishvili (UKN 155 G) offers the following translation for the same line *'This offering(?)[ini isiuše] (extra?) for(?) (from?) entire kingdom I destroyed'*.

[27] Diakonoff (1991a: 20) interprets it as 1408 horses.

[28] Diakonoff (1991a: 20) and Melikshvili (1960: 288) consider it as mules contrary to Salvini, who translated it as camel, however *ANŠE.GÍR.NUN.NA^{MEŠ}* should be read as mules.

[29] Diakonoff (1991a: 20) and Melikshvili (1960: 288) translate it as 1,022,133 *kapi* of barley.

[30] Diakonoff (1991a: 20) reads it as 779 copper minas.

[31] Diakonoff (1991a: 20) and Melikshvili (1960: 288) considers '*ÍR^{MEŠ}*' as 'slave', whereas Zimansky (1985: 56 and 77 no 77) states that 336 should be read as 'month' and not 'slave' based on Lehmann-Haupt's photo of the inscription.

[32] Salvini 2008: 430.

singular transitive past tense from a verbal root *túru-* is considered by both Melikishvili[33] and Diakonoff to mean 'to destroy'. Zimansky[34] also noted that the imperative forms *túri* and *túli* appear in curse formulae with the meaning 'to destroy'. The verb *túrubi* is mentioned three times and has the object as persons and things concerned with disproportionate numbers of soldiers, the measurement of agricultural crops as well as horses and weapons. Furthermore Diakonoff read *isiuše* as 'burden' or 'exaction'[35] whereas Melikishvili translated it as 'surplus'[36], contrary to Salvini who referred to it as 'consumption/use'. Overall Diakonoff considered the text as a decree (*ardâie,* from verb *ar-* 'to give')[37] of Sarduri II which was intended to reduce the obligatory services and taxes or burden on different population groups such as *šurele, hurâdinele, urordele* and *purâle* in Urartian society (see Part I section 4.1 for Diakonoff socio-economic model of Urartu).[38]

The term *šurele* (^{KUR}*šú-ra-a-ni*) is the plural of the Urartian word *šure* and means 'weapons or sword' which refers to the armed guard of Urartian royal palace and which was part of the army (sumerogram *KUR.KUR*^{MEŠ}).[39] The term *šurele* also appears in a number of inscriptions as part of the titles of Urartian kings from the reign of Išpuini until that of Rusa III.[40] Diakonoff argued that ^{KUR}*šú-ra-a-ni* (genitive of *šurelə*) and *KUR.KUR*^{MEŠ} are identical and the possibility of almost all the *šurele* being freed from their military service by the decree, since they are no longer mentioned as warriors.[41] After *šurele* the text mentions the *Hurâdinele* who, according to Diakonoff, were identical with the sumerogram ^{LÚ}*A.SI*^{MEŠ}. Lines 6 and 9 of the text must refer to all military contingents and probably included the *Hurâdinele* (*ḫur-adə* or *ḫûr-adə*/warrior)[42] and their armour. The last group on the list are *urordele* (^{LÚ}*ú-ru-ur-da-a-ni*) who were occupied with agriculture (from *ur-* or *ur-ul-* 'to work, to till the ground') and who provided the army with agricultural products as line 10 indicates. However there is no textual evidence to support this class based model of Urartian society by Diakonoff (see Part I section 4.1 for the Marxist based School of Urartian Archaeology).

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[33] Melikshvili (1960: 410) correlates it with Kelishin inscription line 40 where '*tú-ri'* is mentioned in context of destroying.
[34] Zimansky 1985: 56.
[35] Diakonoff 1963b: 56-57, 1991a: 17.
[36] Diakonoff 1991a: 17.
[37] Salvini (2008: 430) believes the verb '*ardaie'* should refers to hardship due work/battle.
[38] Diakonoff 1991a: 18.
[39] Diakonoff 1991a: 17.
[40] The word *šurele* occurs in a number of inscriptions with land determinative *KUR* (^{KUR}*šurele*) and is located in the region of Ağrı Plain in the Upper Murat basin based on Pirabat inscription (Payne and Ceylan 2003: 191-201).
[41] Diakonoff 1991a: 17-19.
[42] Diakonoff and Starostin 1986: 63.

Whether the large number of troops (92 chariots, 3600 horsemen and 352,011 foot soldiers) and the relatively small size of livestock, the various kinds of weapons, barley, wine, oil, bronze on the list are to be viewed as the spoils of war or an inventory of the armed forces and other assets of the Urartian kingdom at the beginning of the reign of Sarduri II is hard to know. On the one hand the number of 352,011 foot soldiers for a standing army would be too high but then the detailed information is unusual for the spoils of war in the annals of Urartian kings. There is also no specific name of an enemy in the text.

There is also evidence which indicates that Urartian provincial governors command considerable number of troops and accompanied the main army into the battle depending on the objectives of the campaign. Provincial troops were likely to be the inhabitants of the settlements in or around the provincial centres. For example, one of the Assyrian letters states that Setini, a provincial governor and mentioned 'as the governor opposite us' (*^{m}se-ti-nu ^{LÚ}.EN.NAM ša pu-tu-ʾni*)[43], set out with 3,000 foot soldiers (*LÚ.ERÍN.MEŠ GÍR.2.MEŠ*), with their prefects, pack animals and the commanders of the *kallāpu* troops to Mušašir. The *kallāpu* refers to 'member of the light troops - a special military formation'.[44] More recently Nicholas Postgate[45] argued that '...the *kallāpu* are a regular component of the Assyrian sector of the army and they occur in too great numbers to be specialists' and suggested that the term is likely to refer to 'foot soldiers'.[46] However it is not clear if the text means separate troops commanded by *kallāpu*, but it seems that commanders of the *kallāpu* are part of Setini's force. Furthermore the same report mentions that *^{LÚ}.EN.NAM* Sunâ, 'the governor of opposite Ukku', with his troops set out towards Mušašir, though it does not give specific number of those commanded by him.

The standing army was likely to have been wintered in barracks in Tušpa and other major centres along with its equipment and animals. In major campaigns the standing army was reinforced by levies from the general population. Assyrian letters on two occasions reveal that Urartian governors raised troops and readied them for war.[47] For instance, Aššur-ruṣawa when reporting the arrival of five Urartian governors to Waisi stated how; '*they have*

[43] Also in SAA V 87: 6 Setini is mentioned as the governor 'opposite us' by Aššur-reṣuwa when reporting the concentration of Urartian troops in Waisa (Uaši).
[44] CAD Vol. K p. 97.
[45] See Postgate (2000: 104-105) for more details on the term *kallāpu.*
[46] Apart from *kallāpu* we also know of some military officers such as *LÚ.10-li* who was a *decurion* and who appears in the Yukarı Anzaf tablet (CT An-1) where Mr 'Aza, is mentioned as responsible for the men listed in lines 1 to 16. In total 10 men, received 20 arrows and a bow; *^{LÚ}aueiṭeni* (an official or soldiers) appears in the Gövelek inscription line 17 (A 14-1 Ro line 17) and the Ayanis III line 11 (A 12-1 Ay III line 11), translated by Salvini (2002b: 136) as a group of people or soldiers and lastly as mentioned above the *LÚ$_2$.GAR.nu-te* (prefect or commander).
[47] SAA V 3 and 87.

entered Waisi with three unit commanders. Now, after their (*arrival*)*, they have raised the levies of the country, and are keeping the army in readiness*'.[48] Although we do not know how the standing and provincial army was maintained by Urartians, one might argue that a system such as '*ilku*' which was used by Neo-Assyrians may have been organised. The *ilku* system was organised by the provincial governments to raise man-power in the form of conscripted soldiers and civilian labour for a limited period of time.[49] When one considers that the economy of the Urartian kingdom was based on arable agriculture (see chapter II.1) and animal husbandry (see chapter II.2) it is likely that the harvest season dictated the availability of manpower for the army. When it was not engaged in fighting that manpower may have been employed in agriculture and stockrearing.

There is also evidence for provincial governors mobilising their own forces when rapid action was required. For example an Assyrian letter that does not mention any Urartian king by name, mentions the actions of a governor, initiated by the request of a city governor (Akkadian*: bēl pīḫāti*) of Meṣi.[50]

In addition to a standing army and provincial troops, conscripted captives from among groups of deportees, many of whom must have served in the army of the conquered countries, were recruited to the Urartian army. In one of the Minua inscriptions (A 5-9 line 15) it is stated that Minua sent war captives to be recruited into the Urartian army: '[*TI*^{MEŠ} *a-g*]*u-bi a-li 'a-še ma-nu a-ru-bi* ^{LÚ}*ḫu-ra-di-na-ú-*[*e*^{MEŠ}]' '[*I*] *gave alive deported men that there were to* [*associated*] *army*'.

This phenomenon also occurred in the annals of Argišti I when dealing with the foundation of Erebuni (Arinberd) where it is said there was the resettlement of 6,600 soldiers (^{LÚ}*gunušini* = men of battle) from the land of Hittite (Malatya) and Ṣupani (classical Sofēnē).

'*Argišti, son of Minua speaks; I built the city of Erebuni, for the mighty of the land of Biainili* (*and*) *for the suppression of an enemy land. The land was a wilderness and nothing had been built there* (*previously*)*... 6,600 warriors* (*men of battle*) *of the lands of Hittite* (*and*) *Ṣupani I have settled there*' (A 8-1 Vo).

Argišti I mentioned the capture of 10,140 ^{LÚ}ÉRIN^{MEŠ} (warriors) alive on his expedition against Diauehi, Šeriazi, Zabaḫae, Eriahi and Apuni.[51] Similarly Sarduri II on three occasions referred to the capture of warriors. There were 6,000 (*gunušini*) from Mannea, Babilu, and

[48] SAA V 87 lines 13-18.
[49] Postgate 1979: 203.
[50] Saggs 2001: ND 2433.
[51] A 8-3 I line 13.

Baruata[52]; 4,000 from the lands of Etiuni, Liqiu and Irkuaini[53] and lastly 2,000 warriors from the land of Urme are listed.[54]

Although the majority of booty lists of the Urartians refer to male and female adults and occasionally warriors, there are occasions where children are also mentioned. It is likely that not only warriors but also children were recruited into army. Like warriors, children or young boys (*ub-še*)[55] were recruited into the army from among the war captives, who in most cases had no attachment to the country or region where they were forcibly resettled. Therefore it is likely that they would be more loyal to the Urartian crown for their survival.[56] The earliest mention of children is attested during the reign of Išpuini in the Karagündüz inscription, which records the military expedition against Mešta and Paršua, and when we are told that from the *'...cities of Mešta, Qua, Šaritu, Nigibi, country of Paršua. X,160 alive men, X6,600 women and children*' were taken away (A 3-9 / UKN 24).

In the Karagündüz inscription, the number of children is given along with women not separately. Argišti I reported the exact number of captured children on four occasions as follows; 15181? from Diauehi[57]; 2,539 from Militia[58]; 7,648 from Uburda, Uišuši, Ḫaḫia[59] and lastly 11,439 from Assur, Qilasini.[60] Although it is hard to know the exact fate of captive children or young boys, it is possible that some were trained and eventually enrolled in the Urartian army.

III.3.5. ^{LÚ}*turtānu* (Commander-in-Chief)

While in Urartian cuneiform tablets ^{LÚ}*a-ṣu-li* appears to be the second most important official, Assyrian administrative letters highlight the importance of ^{LÚ}*turtānu* and ^{LÚ}*EN.NAM* who are clearly regarded as the highest officials in the Urartian realm. The title ^{LÚ}*turtānu* was originally used by the Assyrians as the commander-in-chief of their own army[61] and who

[52] A 9-3 I line 10.
[53] A 9-3 I line 20.
[54] A 9-3 I line 24.
[55] 'Ub-še' read 'ar-šə' by Diakonoff and Starostin (1986: 36) Melikishvili 'ar-še' (1971: 80).
[56] A similar system was used by the Ottoman Empire and called the Janissaries or 'new troops' (Turkish: *yeniçeri*), created from prisoners of war. The system and its recruitment process known as *devşirme* 'collection' was introduced to recruit new soldiers. Selected Christian boys were converted to Islam and received education and military training before being enlisted into army (Fodor 2009: 206-207).
[57] A 8-2 Vo line 12.
[58] A 8-3 II line 19.
[59] A 8-3 II line 45.
[60] A 8-3 III line 6.
[61] In the Neo-Assyrian period *turtānu* was the commander of the army and lead the troops of the provincial governors and other men in the absence of the king who was otherwise the supreme commander of the Assyrian army. It is first attested during the reign of Assurnasirpal and was also in the eponym list. Sargon II divided the office of *turtānu* in two and assigned the left commander-in-chief to Kummuhi after its annexation as an

applied the same title to Urartian commanders. It should be pointed out that there is no mention of an equivalent term in Urartian inscriptions. The Assyrian evidence for the existence of an official called *turtānu* in Urartu consists of five texts. In these texts two *turtānus* are mentioned. The first person is Kaqqadanu[62], mentioned as ^{LÚ}*tur-ta-nu-šu* and the second is Urṣenê (^{m}*ur-ṣe-né-e*), referred to as ^{LÚ}*tur-ta-nu- 2-u*.[63] The former is considered to be the equivalent of the Assyrian ^{LÚ}*tur-ta-nu-ša imitti* which refers to the commander-in-chief of the Urartian army and later as the deputy commander-in-chief which was the equivalent of *turtānu ša šumēli* in Assyria.[64]

There is not much known about Urṣenê's role in the Urartian army, apart from him being the brother of Abliuqnu[65] who is mentioned in another letter as the governor of Mušašir. The letter SAA V 91 lines 13-22 mentions how Urṣenê was arrested in Turušpa in connection with a revolt against the Urartian king without much further detail about his role in the army (see III.1.3.1 for more detail about Urṣenê). However, contrary to Urṣenê, there is much more detail about Kaqqadanu and who appears in a number of letters as a *turtānu* and governor. For example, the letter SAA V 86 reports the Urartian king and his *turtānu* Kaqqadanu's movement as follows (lines 4 and 12):

[*The ki*]*ng of Urartu has left Turušpa* [*on the fir*]*st of Nisan and gone to Elizzada. Kaqqadanu, his commander-in-chief, has gone to Waisi* (Urartian Uesi). *The whole Urartian army is marching* [*t*]*o Elizzada, following the king'.*

In another letter it is reported that after the defeat of the Urartian army by the Cimmerians, Kaqqadanu was captured. The letter was written by Sennacherib, the crown prince, to king Sargon, mentioning the Cimmerian victory:

'The troops of the Urartian king have been utterly defeated on his expedition against the Cimmerians;

'*Eleven governors have been eliminated* [*with*] *their troops; his commander-in-chief* [*have been taken prisoner*]. *He* (*himself*) *came to take* [*the road to .....*] *came* [*..... the pr*[*effects of his country* [*……*] *stationed* [*in ...*].

Assyrian province. The right commander-in-chief centre remained in Til-Barsip (Mattila 2000: 107-128 and 165).
[62] SAA V: 86.
[63] SAA 91 line 13.
[64] Lanfranchi 1983: 131.
[65] SAA 84 line 9.

[*Thi*]*s was the report of the Ukkaean. Aššur-reṣuwa has written to me thus: The previous report which I sent about the Urartians was that they had suffered a terrible defeat. Now his country is quite again and each of his magnates has gone to his province. Kaqqadanu, his commander-in-chief, has been taken prisoner; the Urartian king is in the province of Wazaun*' (SAA I 31).

In an another text it is stated that: [*B*]*efore* [*him, Kaq*]*qa*[*danu had en*]*tered Wai*[*si*] *in Tishri; the king entered the city* [*af*]*ter him*.[66] The beginning of the text is broken and so it is not clear if it refers to governor or *turtānu* Kaqqadanu. The name Kaqqadanu also appeared in another letter in a different context as is mentioned above (see III.1.3.1). Here he is listed, along five other provincial governors of Urartu, as the governor of '*the one opposite the Ukkeans*'[67] and is also mentioned again as a governor.[68]

The importance of *turtānu* as a high-ranking officer is reinforced by another two Assyrian administrative letters. The first text refers to an attack on a border fortress of the Urartians by Manneans and the action of an Urartian *turtānu.*[69] Similarly the second mentions the *turtānu's* military intervention in a revolt at the city of Kar-siparri against Urartian rule.[70] Therefore there is no doubt that the *turtānu* was a high-ranking officer in the Urartian army.

Although Assyrian written sources do not mention the hierarchical difference between *turtānu* and ^{LÚ}*EN.NAM*, if we tentatively apply the Assyrian concept to Urartian institutions and the way in which Assyrian operated it is reasonable to assume that the *turtānu* led the provincial governors and other troops in the absence of the king.

III.3.6. The King as a Commander-in-Chief

One of the most important aspects of the Urartian kingship was its role in military activities. The annals of the Urartian kings dealing with military activities were focused on the action of the king and with the exception of referring to the national god Haldi, no other individual apart from an opponent are mentioned. Like their Assyrian counterparts, Urartian kings led the army and conducted at least one campaign annually. The king as a warrior is one of the most distinctive aspects of Urartian kingship in the royal annals alongside the god Haldi. Urartian kings often stated that '^{LÚ}*ḫu-ra-di-ni-li ú-e-li-du-bi*' 'I gathered the troops'[71]

[66] SAA V 112 line 1.
[67] SAA V 87 line 7.
[68] SAA V 89 line 5.
[69] SAA V 131.
[70] SAA V 166.
[71] A 9-3 VI line 2; A 8-3 I line 5.

or '*LÚA.SIMEŠ ú-e-li-du-li*' 'I assembled the troops'[72] before any military operations. When reporting the concentration of Urartian troops in the Urartian town of Harda (in the Murat River valley between Elazığ and Bingöl), Liphur-Bel, the Assyrian provincial governor of Amidi, reported how the Urartian king Argišti mobilised his troops: '(the) *...levied troops are positioned town by town in a battle array as far as Turušpa*' and gave his troops the following order: '*...as to the work I ordered you to do, don't do it! Feed your horses until I send you a messenger*'.[73] Judging from the cuneiform inscriptions of the Urartian and Assyrian it is clear that kings personally planned and led campaigns and were actively involved in military operations.

Assyrian documents reveal how the Urartian king did indeed lead his army in battle putting the Urartian's king life in danger as a result of it on at least four occasions. For example, the Assyrian king Shalmaneser III stated that Arramu, the first known Urartian king, only saved his own life after climbing on a mountain peak.[74] In the second incident, after the victory of Tiglath-pileser III, Sarduri II escaped the battlefield on a mare to the mount called Sibak.[75] In the third incident, after the victory of Sargon II over Rusa I at the battle of Mount Uauš, Rusa also escaped on a mare from the battlefield.[76] In the last instance, when Rusa I suffered a defeat at the hand of the Cimmerians, he fled the battle on a horse and the rest of his army without realising that the king had escaped, declared the crown prince Melartua the new king (see III.5.3 for Melartua).[77] In all four incidents the Urartian kings fled the whole of their camp which included chariots, cavalry, horses and large quantities goods.

III.3.7. Conclusion

Overall, the division of the army into cavalry, infantry and chariotry units shows the existence of a professional standing army which was vital to the existence of the Urartian kingdom. When considering our textual evidence in conjunction with the mountainous terrain of the Urartian territory it is reasonable to suggest that the Urartian army was predominantly made up of infantry and cavalry. The chariot contingents were likely reserved for the Urartian aristocracy. The mountainous terrain and the climate as well as the need of manpower during

[72] A 8-3 III line 49; A 8-3 III line 7.
[73] SAA V 3 lines 9-15.
[74] ARAB I 605.
[75] ARAB I 797, 769 and 813.
[76] ARAB II 154.
[77] SAA V: 90, 92, 114 and 174.

the harvest and sowing season is likely to have limited the campaigning season from early spring to mid-autumn.

However the territorial expansion of the Urartian kingdom mostly took place over a short period of time towards the end of the 9th and at the beginning of the 8th centuries BC, and after this initial growth intensive military expeditions yielded relatively little new land. But both Urartian and Assyrian written sources indicate that Urartian kings actively continued to engage in warfare with its arch rival Assyria as well as with other small states and tribes. Since the frontier of the kingdom remained more or less the same after the initial expansion it can be argued that the military expeditions conducted during the later 8th and 7th centuries BC may have primarily been concerned with acquisition of material gain, security and the expansion of state boundaries. The material gain, in the form of booty and tribute (see chapter III.4) was no doubt one of the main objectives of Urartian kings' military expeditions and was one of the important sources of revenue for the kingdom. In particular, the transportation of war prisoners to various parts of the kingdom was likely to have provided the Urartian rulers with a regular source of manpower. Therefore there is no doubt that the army played an important role in the socio-economic life of the Urartian society as it was the main driving source of power that kept together the dispersed tribes that made up the Urartian kingdom.

III.4. THE SPOILS OF WAR

III.4.1. Introduction

The material gain, in the form of booty and tribute, was no doubt one of the main objectives of Urartian kings military expeditions. It was one of the most effective ways of obtaining goods and people for the enrichment of the kingdom. Following its rapid territorial expansion, it seems that military expeditions were an important source of revenue for Urartian the state economy and neighbouring regions were raided for booty, tribute, human and other resources. For example, the western and south-western parts of the Lake Urmia basin (Manna, Buštu, Paršua, Abilianiḫi and Urme) and Lake Sevan basin (Arquqi, Adaḫuni, Luipruni, Ešumuai, Kamniu, Qu'albani, Uḫuni and Teriani) were seem to be the best sources of booty in the form of animals (see Table 29). Whereas the Ararat region of Armenia (Etiuni, Eriaḫi and Uiteruḫi) as well as north-east Anatolia (Diauehi), Elazığ-Malatya (Militia) and the Adıyaman (Qumaha) regions of Anatolia were rich in mineral sources.[1] These factors led Urartian kings to lead successful military campaigns into these regions in order to obtain tribute and booty in the form of metal artefacts that played a very significant role during the formation and expansion of the Urartian kingdom.

The acquisition of goods from the surrounding kingdoms and territories is reflected in two different categories of Urartian period inscriptions; as either booty or tribute. The booty recorded in Urartian inscriptions indicates that it was obtained after the destruction of settlements, after battles or through the plundering of enemy territories. These inscriptions also record how tributes and indemnities were imposed by Urartian rulers upon enemy states after they were defeated. However, the majority of Urartian texts record income from booty rather than tribute. Tribute is only occasionally recorded, although the annals of Argišti I (A 8-2 Vo / UKN 128 B1) and Sarduri II (A 9-3 IV / UKN 155 E) provide us with exceptions to this rule.

III.4.2. Booty

There are a few royal inscriptions indicating that the Urartians received booty from states such as Assur, Phrygia and Hittite (Militia). It seems that Urartu had a clear military advantage over the smaller polities (e.g. Militia[2], Etiuni[3], Mana, Etiuni, Buštu, and Qumaha)[4]

[1] See chapter II.3 the metallurgy for more detail about mineral resources and it exploitation prior to Urartian campaigning and after the annexation of these regions by Urartian.
[2] A 5-9, A 8-3 II, A 9-1 Vo.

which posed less of a military challenge and in certain regions where repeated military expeditions were undertaken (e.g. Lake Sevan and Urmia). Some territories appear to have been repeatedly raided by the kings Minua, Argišti I and Sarduri II (Mana[5], Irkiuni[6], Buštu[7] and Diaueh[8]) and this suggests that these territories were seen as reliable sources of booty revenue (see Table 29).

A notable difference between Urartian inscriptions dealing with booty and their Assyrian counterparts is the lack of detail regarding the composition of booty in the Urartian texts, in particular for the reign of Rusa I, Argišti II and Rusa III in which it was stated on each occasion that booty was taken but no details were recorded. For example, when Sargon II of Assyria defeated Rusa I and then marched through part of the Urartian territory in 714 BC on a mission to plunder, Sargon gives a detailed description of the booty taken from the palace of Urzana and the Haldi temple following the conquest of Mušašir[9] listed people, animals, and numerous metal artefacts as part of the booty (see II.3.4.2 for the lists of items taken from Mušašir' palace and temple). However there is better detail from the reigns of Išpuini, Minua, Argišti I and Sarduri II and greater consistency for almost every individual military expedition whereby the kings listed as booty captives and animals, occasionally precious metals, and on one occasion timber.[10]

When considering evidence of booty as a whole in the Urartian kingdom, two distinctive categories of booty can be distinguished: (1) booty taken after the sack of settlements and the conquest of territory; and (2) booty taken after battle. Booty taken after the conquest of territories mainly includes prisoners (military and civilian, women, men and children included), livestock (cattle, sheep, goats, camels and mules) and other types of valuable goods (the treasure of royal palaces, luxury items, furniture and even raw materials such as timber). By contrast, booty taken after battles invariably consisted that of a military nature such as chariots, weapons as well as prisoners and horses. As will be seen below, in each of these categories, the materials gained through plundering were different.

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[3] A 5-2, A 8-3 I-II, A 8-3 V, A 8-6, A9-3 I.
[4] A 9-3 IV.
[5] A 8-2 Ro, A 8-3 IV, A 8-3 V, A9-3 I, A 9-3 V.
[6] A 8-2 Ro, A 8-3 IV.
[7] A 8-2 Ro, A 8-3 III, A 8-3 IV, A 8-3 V.
[8] A 8-2 Vo, A 8-3 I.
[9] ARAB II 172-175.
[10] In the Qalatgah inscription of king Išpuini there is mention of 'tree' for Haldi in the city of Uiše in the country of Zašgau, north-west Iran. Although in A 3-10 Salvini interpreted the line 6 of Qalatgah inscription 'tree' the same line was interpreted by van Loon (1975: 204) as: '[*ma-s*]*i i-na-i-na-e-di GIŠ*^{HLA}*-e-di e traduce* '[into hi]s divine trees'.

There is only one reference to booty taken after battle in Urartian inscriptions. Sarduri II mentioned the capture of 50 chariots (*50 ^{GIŠ}GIGIR^{MEŠ} gu-nu-ši-ni šá-tú-ú-bi)* after the defeat of Hilaruada, the king of Militia.[11] As Shigeo Yamada[12] has demonstrated, military equipment such as chariots, shields, helmets and horse harnesses might have been taken after battle as booty, although this is rarely mentioned in Urartian royal inscriptions. Although not expressly stated, such an acquisition of military equipment would have strengthened the Urartian army, compensating for its losses in battle and increased the army's ability to further break the resistance of the enemy. Acquisitions of the aforementioned sort are recorded in Assyrian history. Sargon II in his eighth military expedition against king Rusa I at Mount Uash stated that he captured the Urartian king's '*...noblemen, counsellors who stand before him, I shattered their arms in the battle; them and their horses I captured. 260 of his royal kin,* (*who were*) *his officers, governors and cavalry, I captured and broke down their resistance*'.[13] As can be seen from this description of Sargon II's military equipment, members of the royal family, governors, and horses were among the most important booty that could be taken after a battle.

However, on the other hand, most of the booty taken by Urartian rulers such as Minua, Argišti I, Sarduri II, Rusa I, Argišti II and Rusa III belonged to first category. One of the important priorities for Urartian kings during military expeditions was the acquisition of human and animal booty, and in respect of the latter, cattle, horses, sheep, goats, and occasionally camels and donkeys (see Table 7) were most commonly recorded. In this regard, the annals of the Urartian rulers and in particular those of Argišti I (Horror Inscription A 8-3 / UKN 127) and Sarduri II of Hazine Kapısı/Analı-kız (A9-3 / UKN 155) mention large numbers of human and animal booty (see Tables 30 and 7). The first recorded booty occurred during the reign of Išpuini. Booty is also mentioned in inscriptions of the later kings Rusa I, Argisti II and Rusa III, although these kings do not specify the number of either deported people or captured animals.

Apart from captives appearing at the beginning of the lists, it appears that there was no discernible convention on how booty was to be listed in Urartian cuneiform inscriptions. Sometimes the inscriptions record the exact number of prisoners of war or animals taken, but on other occasions they simply mention that humans and animals were taken. In the majority

[11] A 9-1 Vo; A 9-4.
[12] Yamada 2000: 226-235.
[13] ARAB II 154.

of cases, booty lists refer to male and female adults, although children and warriors are sometimes mentioned (see Table 30).

It is mentioned in cuneiform inscriptions that some of the captives were killed while others were taken away alive to Urartian territory. For instance, Argišti I in the aftermath of his military campaign against Militia states that: *a-li-ki za-áš-gu-*[*bi a-li*]*-ki* [*še-ḫi]-ri a-gu-bi* '...some I killed some I took alive'.[14] It is likely that killing some captives was a form of punishment.

It appears that members of royal families were among the captives taken in war. For instance, Sarduri II mentions the capture of Ḫaḫa, the king of Ḫuša together with the rest of his people who were deported to Urartian territory.[15]

However, it is not known exactly how the Urartian army transported its captives from one region to another and if they allowed them to take any belongings with them. Urartian cuneiform inscriptions are unfortunately silent on this matter. But archaeological evidence from Houses 11 and 12 of Ayanis outer town includes Assyrian style vessels (15% of the pottery)[16] which may indicate that deportees were allowed to take certain possession with them.

There was an increase both in the number of animals and humans taken as booty during the reigns of Argišti I and Sarduri II. In the Hazine Kapısı (A 9-3 I) inscription Sarduri II states that he carried out three different military expeditions in a single year, against the kingdoms of Mana, Babilu and Baruata in the Lake Urmia region; Etiuni, Liqiu and Irkuaini in Transcaucasia; and to the kingdom of Urme, located in the south-west of Lake Van. He listed the booty obtained after each expedition separately and gave the totals of different categories booty:

'*Sarduri, son of Argišti, says; in three countries in one year I captured a total of 12,735 men, 46,600 women, 12,000 warriors, 23,335 cattle, 58,100 sheep and goats. Sarduri, son Argišti, on behalf of god Haldi I have accomplished these deed during a single year*.' (A 9-3 I lines 25-29).

This account shows that there were administrative systems for recording state revenues not just for individual military campaigns but also annually, which were probably recorded by ^{LÚ}*NÍG.ŠID*s, who are considered to be state accountants (see III.5.5.2 and III.5.5.3).

[14] A 8-3 II line 47.
[15] A 9-3 II line 3.
[16] Stone 2012: 97.

In some cases, there is no mention of plunder in royal inscriptions after the destruction of cities but we may still conclude that these cities were looted but the spoils were not recorded. For example, in the Tsovak inscription[17] Sarduri II stated that he had conquered the territory of Arquqini but there is no mention of booty. Similarly, the Nor-Bayazet[18] inscription of Rusa I describes how he subdued the king of Uelikuḫi, removed him and established a governorship, yet there is no mention of any booty. There is also no record of booty from Argišti I's expeditions against Etiani[19], Qulia[20] and Eriahi[21], despite his claims that he had conquered these regions.

Although the plundering of royal residences is not explicitly narrated in royal inscriptions, the Urartians must surely have seized vast amounts of valuable materials were stored in local administrative centres. Sarduri II states in his annals (A 9-3 II) that he conquered the land of Eriaḫi[22] with its capital city's storages rooms of 250.[23] Here we are dealing with plundering of the palace treasure and probably the looting of the capital city of Eriaḫi, which must have had a disastrous economic impact on the city.

On the other hand, booty taken whilst ravaging the countryside of defeated kingdoms might not have always been readily available when the mountainous terrain of eastern Anatolia, north-west Iran and Transcaucasia is taken into consideration. It is also likely that on some occasions, the countryside might have been evacuated before the Urartian army arrived, denying them sufficient booty or forage to sustain the whole army for the duration of a campaign. As a result, the number of prisoners and animals taken following battles and raids must also have been small.

III.4.3. Distribution of Booty

Although we do not know exactly how the booty was shared between Urartian troops and their kings, in the annals of Sarduri II (A 9-3 I, II, VI)[24] on three occasions there are references to Urartian troops taking their own share of booty separate from the king. In A 9-3 I[25] (the military expedition against Mana, Babilu and Baruata) and in A 9-3 II[26] (the

[17] A 9-7.
[18] A 10-1.
[19] A 8-8.
[20] A 8-9.
[21] A 8-10.
[22] Located in modern Gumri (Leninakan) in Armenia (Diakonoff and Kashkai 1981: 30-31).
[23] A 9-3 II lines 30-33.
[24] UKN 155A, C, F.
[25] '*I carried off 8,135 boys, 25,000 women,* (*and*) *6,000 worriers*' A 9-3 I lines 9-10.
[26] '*7,150 men during that year, some of whom I killed, others I carried off alive*' A 9-3 II lines 42-43.

expedition against Abilianihi) after listing the different categories and numbers of captured people and animals Sarduri stated that: *'i-na-ni MAN-e nu-na-a-bi mí-i a-li* ^{LÚ}*A.SI*^{MEŠ}*-še pa-ar-tú še-e-ri pa-ar-tú' 'This came to the king, what warriors took away, they took separately'.*[27] It is not explicitly stated if prisoners of war and animals captured were actually given to troops, but in A 9-3 VI Sarduri states that '*...separately I gave men and women to the troops'*.

Although we do not know exactly how the booty was shared out, it seems reasonable to assume that the largest share went to the king, and the rest was distributed among the military officials, soldiers and perhaps some was also given to the temple by the king.[28] Furthermore, it is possible that part of the booty might have been distributed to soldiers, both for food while on campaign, and as a reward after battle. Judging from the available evidence it seems that either whole or part of the booty was divided among the officials and soldiers immediately on the battlefield to compensate for the expense of war. It could be argued that as the highest officer on the campaigns, after the ^{lú}*EN.NAM* (provincial governor), the *turtānu* would have been the individual in charge of disturbing booty on the battlefield.

III.4.4. Aims and Objectives of Deportation

As mentioned above, there were mass deportations of war captives which was likely motivated by political and economic reasons and which can be categorised as follows: (1) as punishment for rebellion against Urartian rule; (2) to recruit new soldiers into the Urartian army; (3) using deportation as a source of unskilled and skilled labour; and (4) for populating new urban centres and opening up unused land for new settlements and agriculture.[29] A large proportion of people acquired by Urartian rulers through military expeditions, were put to work on large construction projects. These projects were perhaps financed to a large degree with the tribute and booty that was obtained mainly from Transcaucasia and north-west Iran.

War captives provided the Urartian kings with manpower for building new cities and also with inhabitants to populate them. The biggest of these kinds of royal construction projects were undertaken in the Ararat Valley, and in the Lake Urmia and Lake Van basins. Captives were resettled in new, rebuilt, cities in strategic locations, or deserted and barren regions. The temple inscription of Ayanis mentions that king Rusa III brought captives from

[27] A 9-3 I lines 11-12 / UKN 155 A.
[28] See also Zimansky (1985: 57 no. 86, 87, 88, and UKN 155A, C and F).
[29] See Oded (1979: 41-74) for mass deportation in Assyria.

Lulu, Assur, Targuni, Etiuni, Tabal, Qainaru, Hittite (Malatya), Muški and Ṣiluquni and how he used them as labour in the construction of Ayanis and resettled them (A 12-1 VI-VII).

As the Ayanis temple inscription indicates, the craftsmen required to build the Ayanis citadel with all its religious, civilian and military buildings were provided from amongst the deportees and, after its construction these people were subsequently settled in the outer town. Along with Ayanis, Rusa III carried out other large building projects such as the construction of Bastam, Karmir-Blur and Kef Kalesi, and it is likely that large numbers of captives were employed in these too. By constructing these cities Urartian kings also developed agricultural areas, creating orchards, vineyards and new areas of cultivation which surrounded the new urban centres. These centres aimed to provide agricultural production which ultimately increased state revenues through taxation or surplus (see Chapter III.3). The rapid expansion of the Urartian kingdom during the reign of Minua, Argišti I and Sarduri II brought vast territories under its control, some of which were populated, whilst others were more or less abandoned, either because of war or because the land was too barren for large-scale habitation. Beginning with the reigns of Išpuini and Minua, Urartian war captives were settled in these territories, and subsequently, large scale urban centres were constructed with equally large scale irrigation facilities to support them and open up previously uncultivated land to agricultural production.

III.4.5. Tribute

It is evident from various inscriptions that tribute helped to bolster the Urartian economy. The tribute received by the Urartian rulers according to the royal inscriptions can be divide into two categories: (1) tribute received by the king in the course of the military expedition referred as 'surrender tribute'; and (2) the tribute imposed on local rulers or vassal states, to be delivered annually called 'annual tribute'. Margaret C. Root[30] identified two functions of tribute: the first is taxation owed by a subject nation and the second is a gift, as *encomium*, and argued that taxation tribute provided imperial power with the economic bases, whereas *encomium* was more of a symbolic gift.

The majority of references to the tribute received by Urartian rulers fall into surrender tribute. It was received when a local ruler was forced to pay tribute (*meše*), or was offered by a ruler who wished to deter military action. It is likely that in terms of content and quantity surrender tribute would be of high value in contrast to annual tribute. In the majority of the

[30] Root 1979: 227-229.

cases, surrender tribute was not recorded in great detail, with the exception being tribute received by Argišti I from Diauehi (A 8-2 Vo / UKN 128 B1) and Sarduri II from Qumaha (A 9-3 IV / UKN 155 E). Nevertheless, Urartian rulers recorded the submission of tribute from various regions such as Etiuni, Diaueḫi, Militia, Qumaha and Uelikuhi.

The first king to receive surrender tribute was Minua, who stated that he spared the life of the king of Etiuni in return for tribute without stating either the items received or the quantities paid.[31] By contrast, when dealing with the defeat of Diauehi, Minua stated that he showed his mercy to Uṭuburšini, king of Diauehi, in return for gold and silver '*... GUŠKIN KÚ.BABBAR*^{MEŠ} *a-ru-ú-ni me-e-še ...*'. Again the quantity of these items was not explicitly mentioned (A 5-3 / UKN 36). The imposition of tribute on smaller conquered polities during the reign of Minua is attested on six occasions (see Table 29), which indicates that, in his time, the annexation of whole conquered territories was not high on his list of priorities. Instead, he concentrated on expanding his power and influence over neighbouring states by establishing a hegemony through military alliances with tribute paying vassal states.

Despite conducting numerous military expeditions after succeeding his father Minua, there are only two incidents of surrender tribute during the reign of Argišti I. But these records are very informative in regard to the extraction of tribute from the kingdom of Diauehi (A 8-2 Vo / UKN 128 B1). Argišti I states that:

'*I spared him* (king of Diauehi) *under the term of tribute. The tribute given to the king Argišti from the Diauehi: 41 minas*[32] *of pure gold, 37 minas of silver ... x tens of thousands minas of copper, 1,000 camels, 300 cattle, x tens of thousands of sheep and goats. Here is the kind of tribute I set ... for the land of Diauehi, so that it gave it each year.... x minas of pure gold, 10,000 minas of copper ...x hundred fat oxen, 100 fat cattle, 500 sheep, 3 camels...*' (A 8-2 Vo lines 19-25).

As can be seen, the contents of the surrender tribute are also listed with those given in the annual tribute. It is likely that the tribute received reflected the region's subsistence economy, which shows that animal husbandry was important in this hilly and mountainous

[31] A 5-1 / UKN 30, A 5-2 / UKN 34.

[32] Although it is not known, the equivalent of '*mina*' mentioned in Urartian inscriptions, in Assyrian and Babylonian texts of 9th and 7th centuries BC *a ma-na/manû* (*mina*) is given as the equivalent of 60 *shekels* (500± 40 g.), one shekel as 1/60 mina = 8.333 g., and lastly a *talent gú*(*n*)/*biltu* is the equivalent of 60 *minas* = 30 kg. (Powel 1990: 510). Frederick M. Fales (1996: 14-17) noted the coexistence of various weight measurements in Neo-Assyrian period documents such as the 'light talent', heavy talent ', 'the mina of merchants', mina of the land', 'mina of the king', 'mina of Karkemish' and 'the Assyrian mina'.

region of north-eastern Anatolia and that the region had rich deposits of silver, gold and copper as well.

There are five cases of surrender tribute (Militia, Puini, Eriahi, Qumaha, and Uelikuhi) during the reign of Sarduri II. In the Habibuşağı/Kömürhan (A 9-4 / UKN 158) and Surb Pogos inscriptions (A 9-1 Vo / UKN 156 B1) Sarduri states that in return for the tribute of silver, gold and various goods, he spared the life of the Militia king Hilaruada. The record of tribute received from Qumaha (A 9-3 IV) is informative as both the items and quantities were listed. After the conquest of the royal city of Uita, Halpa and plundering the city of Parala, Sarduri reported that Kuštašpili, the king of Qumaha, prostrated himself and that he received '*...40 minas of pure gold, 800 minas of silver, 3000 of clothing, 2000 copper shields, 1535 copper bowls....*' as tribute (A 9-3 IV lines 52-56).[33]

Sarduri II also recorded the tribute of surrender from the king of Puini in the Ararat Valley and Lake Sevan basin following a military expedition into those areas. Sarduri stated how he enslaved the king of Puini and subjected him to tribute without explicitly recording the items and quantities of tribute[34], as was also the case with the king of Uelikuhi[35] and Eriahi.[36] There are also two inscriptions of Argišti II which show that he received surrender tribute from Etiuhi kingdom (A 11-3 Vo) in Caucasia, and from the territories of Ušulu, Buque, Girdu, Gituḫani and Tuišdu in north-west Iran.[37]

However, overall, the tribute received by Urartian kings in this category largely consisted of high value goods (i.e. metal artefacts and special textiles) and livestock. The tribute lists from the Diauehi and Qumaha kingdoms are exceptionally informative for not only recording tribute items but also the large quantities of precious metals. The economic impact of such tribute must have been very significant since these records were dated to the formation, expansion and consolidation of the early Urartian kingdom.

In contrast to surrender tribute, annual tribute is attested in Urartian inscriptions in just two cases. It was imposed on Diauehi in north-western Anatolia and the small polities located in modern day Armenia. The annual tribute is attested for the first time during the reign of Argišti I and was imposed on the kingdom of Diauehi (A 8-2 lines 22-23/ UKN 128). The

[33] The word ''*a-ni-ia-ar-du-ni*' which appears in A 9-3 III line 42 in regard to Sarduri II expedition against Kuštašpili, the king of Qumaha, was translated by Salvini as 'vassal, subject'. In contrast, Diakonoff (1989: 94) argued that it should be translated as 'sinner' or 'guilty'. However, the translation offered by Salvini seems to justified by the context of the text.
[34] A 9-3 I lines 17-18.
[35] A 9-3 VI.
[36] A 9-3 II.
[37] A 11-4 line 7, A 11-5 line 9.

annual tribute imposed on Diauehi is informative in terms of its nature and quantity and is recorded along with tributes of surrender. The annual tribute is much less than the tribute of surrender, but in both modes of tribute the type of items was similar. The annual tribute appears to have been levied to determine the enduring loyalty of the vassal kingdom of Diauehi and to provide Urartu with metal. The tribute reflects the region's subsistence economy and provides information on its natural resources. The name of Diauehi does not appear again in Urartian cuneiform inscriptions which suggests that either it became a vassal state or was annexed to the kingdom of Urartu by Argišti I.

The second imposition of annual tribute is mentioned by Rusa I during a military expedition in Transcaucasia against tribes and local rulers in modern Armenia, with 23 local rulers being subjected to an annual tribute (A 10-2 / UKN 266). In this case, there is no information about the items and their quantities. However, considering Sarduri II's[38] earlier expeditions in the Ararat Plain and Lake Sevan and the huge number of captured animals from these areas, it is likely that the small polities here were forced to provide animals such as cattle, sheep and goats as tribute.

Although there is no specific information about how the annual tribute was delivered to Urartu, there are numerous textual and pictorial representations in Assyrian reliefs which suggest how it may have been. For example, the Balawat Gate of Shalmaneser III[39] contains a scene that depicts ships from Tyre arriving with tribute on them as well as scenes of tribute from Carchemish.[40] In one of the Sargon II inscriptions there is a description that alludes to how in one particular instance tribute was delivered to Sargon[41], although this is to be read in a context of celebration rather than one of forced submission.[42]

III.4.6. Conclusion

To judge from the cuneiform inscriptions of Urartian rulers, it seems that great quantities of goods as well as humans and animals flowed into the state as booty, tribute and other forcible means of acquiring commodities from annexed territories or vassal states. People and animals are frequently attested in the booty lists of Urartian kings from the reign

[38] A 9-3 I / UKN 155 A, A 9-3 II / UKN 155 C, A 9-3 IV / UKN 155 E, A 9-3 VI / UKN 155 F.
[39] King 1915: Pl. XIV.
[40] King 1915: Pl. XXXII-XXXV.
[41] ' *... From the princes of the four regions* (*of the world*)*, who had submitted to the yoke of my rule, whose lives I had spared, together with the governors of my land, the scribes and superintendents, the nobles, officials, and elder, I received their rich gifts as tribute. I caused them to sit down at a banquet and instituted a feast of music*' ARAB II 98.
[42] The ivory panels from the throne room of Assurnasirpal II in the temple of Nabu at Nimrud also illustrate scenes of Assyrian kings receiving tribute (Oates and Oates 2001: 121).

of Minua until the reign of Rusa III, and from almost all of the regions which surrounded Urartian territory. By contrast, metals were taken as booty and tribute only from north-eastern (Diauehi) and south-eastern Anatolia (Militia and Qumaha) regions. However, it is also plausible that metals might have been taken from the treasuries of conquered royal cities or palaces; although these are not explicitly mentioned in Urartian cuneiform inscriptions. Overall, it is clear that the material gain, in the form of booty and tribute were the important sources of revenue for the kingdom.

Table 29. Urartian Kings, Their Texts and Tribute Regions

Kings	**Texts (CTU)**	**Opponents**
Minua		
	A 5-1	Etiuni
	A 5-2	Etiuni
	A 5-3	Diauehi
	A 5-5	Militia
	A 5-6	Urme
	A 5-7	X ...]
Argišti I		
	A 8-2 Vo	Diauehi
	A 8-3 II	Tuate
Sarduri II		
	A 9-1 Vo; A 9-4	Militia
	A 9-3 I	Etiuni
	A 9-3 II	Eriahi
	A 9-3 IV	Qumaha
	A 9-3 VI	Uelikuhi
Rusa I		
	A 10-2	The kingdoms located on the southern shore of Lake Sevan [a]
Argišti II		
	A 11-3 Vo	Etiuhi
	A 11-4; A 11-5	Ušulu, Buque, Girdu, Gituḫani, Tuišdu

Note**: a.** The Tsonivar inscription of Rusa I mentions the conquest of small kingdoms such as Adahuni, Uelikuḫi, Lueruhi, Arquqini, Gurqumeli, Šanatuai, Teriušai, Rišuai, Sezuai, Ariai, Zamani, Irqimani, Elaini, Ereltuai, Aidamaniu, Guriai, Alzira, Turuai, Šilai, Uiduai, Atezai, Eriai and Azameruni.

Table 30. Urartian King, Number Deportees, Men, Women and Children

King	Text (CTU)	Opponent	Men	Children	Worrier	Women	People	Total
Ispuini								
	A 3-4 Ro-Vo	Uiteruhi, Luša, Katarza, Etiuhi	X720	-	-	X670	-	-
	A 3-9 Ro	Mešta, Qua, Šaritu, Nigibi, Paršua	X160	X6600*	-	-	-	-
Minua								
	A 5-2	Etiuni	-	-	-	-	5X,XXX	-
	A 5-9	(Hatti) Alzi	-	-	-	-	2113	-
	A 5-9	Marmani, Dirguni, Uliba	-	-	-	-	X55	-
Argišti I								
	A 8-2 Ro	Mana, Irkiuni	-	-	-	-	6481	-
	A 8-2 Ro	Mana, Buštu		-	-	-	7873	-
	A 8-2 Vo	Diauehi	2734	15181?	-	16004	-	-
	A 8-3 I	Diauehi, Šeriazi, Zabaḫae, Eriahi, Apuni	19,255	-	10,140	23,280	-	52,675
	A 8-3 I-II	Etiuni	?	-	-	10,X00	-	22,179
	A 8-3 II	Hittite (Militia)	8,298	2,539	-	1[8],057	-	29,284
	A 8-3 II	Uburda, Uišuši,	2,655	7,648	-	8,497	-	119,790

		Ḫaḫia						
	A 8-3 III	Assur, Qilasini	-	11,439?	-	-	-	-
	A 8-3 III	Buštu, Paršua	-	-	-	-	X5,140	-
	A 8-3 III	Buštu, Ḫ[a-x-x-x, Arḫau	-	-	-	-	18,827	-
	A 8-3 IV	Mana, Buštu, Ijani	-	-	-	-	18,243	-
	A 8-3 IV	Mana, Irkiuna	-	-	-	-	6,471	-
	A 8-3 IV	Buštu, Šatiraraga, Ugišti	-	-	-	-	7,873	-
	A 8-3 V	Mana	-	-	-	-	3,270	-
	A 8-3 V	Mana, Buštu	-	-	-	-	13,979	-
	A 8-3 VI	Urme	-	-	-	-	24,813	-
	A 8-6	Etiuni	150	-	-	6200	-	-
Sarduri II								
	A 9-1	Rihisa, Hura, Bi-x[-x-x], Basatini	1829	-	-	7751	-	22190
	A9-3 I	Mana, Babilu, Baruata	8,135	-	6,000	25,000	-	-
	A9-3 I	Etiuni, Liqiu, Irkuaini	3,500	-	4,000	15,000	-	-
	A9-3 I	Urme	110	-	2,000	6,500	-	-
	A9-3 II	Qulha, Husa	2,890	-	-	6,408	3,496	9,904
	A 9-3 II	Abilianihi	-	-	-	-	7,150	
	A 9-3 III	Uiteruhi	8,100	-	-	9,110	-	17,200
	A 9-3 IV	Eriahi	643	-	-	15,553	-	-
	A 9-3 V	Mana, Eriahi	-	-	-	4,928	-	8,153

	A 9-3 VI	Arquqi, (Adaḫuni, Luipruni, Ešumuai, Kamniu, Qu’albani, Uḫuni, Teriani)	10,000	-	-	23,200	4,600	37,800

Note**: X** indicates the number that cannot read and ***** the number of women and children were given together.

II.5. THE MONARCHY

III.5.1. Introduction

After it emerged from the tribes of eastern Anatolia as a united kingdom under Arramu or Sarduri son of Lutpri, the Urartian dynasty was to play a crucial role in the socio-economic life of eastern Anatolian, north-west Iranian and Caucasian societies. The economic, political, and religious institutions of the kingdom were closely bound together as demonstrated in this study. Therefore it is necessary to analyse and discuss the Urartian concept of monarchy and, most importantly, the king's position in the Urartian realm, the royal succession, king's titles and how the royal bureaucracy functioned as a whole. Although previous studies have often focussed heavily on the role of the monarchy in Urartian society, economy and even though the top-heavy nature of the archaeological and textual sources means there is a danger of making positivist interpretation, some consideration of the monarchy as a socio-economic institution is essential to understanding the kingdom more broadly. Hence this chapter aims to offer an analysis of the monarch's role in the formation of the kingdom, and in its economic development, military, religious life and construction activities by examining the relevant Urartian and Assyrian texts.

III.5.2. The Monarch and Haldi

The god Haldi was the divine legitimator of Urartian kingship as indicated by the account of the Sargon II, which tells of a crown prince's coronation at the Haldi temple in Mušašir.[1] This ceremony mentions how a crown prince in Urartu was appointed or confirmed as the future king (*ereli*) under the auspices of Haldi.

The Mušašir temple of Haldi is illustrated as the locus of divine power of Urartian kingship.[2] The importance to this city to the Urartian dynasty is further emphasised by regular visits of Urartian kings and officials to it.[3] For example, the Kelishin[4] inscription of Išpuini; Topzawa[5] and the Mergeh Karavan[6] inscriptions, which date to the reign of Rusa I, mention visits to Mušašir, where important celebrations were held to commemorate the

[1] ARAB II 171.
[2] Kravitz 2003: 92-93.
[3] SAA V 11, 88 and 147.
[4] 3-11/ UKN 19.
[5] A 10-5 / UKN 264.
[6] A 10-4.

king's visit. It should also be mentioned that in Analıkız at Van Kalesi, Sarduri II stated that '*^{D}ḫal-di-iš-me MAN-tu-ḫi a-ru-ú-ni na-ḫa-a-di ^{LÚ}AD-si-ni e-si-i MAN-tu-ḫi-ni*' '*when Haldi gave me the kingship I set on the paternal throne of the kingship*'.[7] Similarly Rusa, son of Erimena in the Gövelek inscription (A 14-1Ro lines 4-10) states that thanks to the might of Haldi, he sat on the Urartian throne.[8]

Urartian kings built and refurbished temples and open-air -shrines (see III.2.4 and Table 23) for the 'national' god Haldi and other deities of their own pantheon and portrayed themselves as the 'servants' of Haldi. Temples and open air-shrines were the most important locations for establishing and legitimizing the king's power. Kings performed regular sacrifices to the gods, in particular to Haldi, to show their gratitude (see II.2.4). The selection of Haldi as supreme god formed a triad with the storm-god Teišeba and the sun-god Šiuini. While the latter two have clear parallels in the Hurrian pantheon and were descendants of the Hurrian gods Teššub and Šimigi[9], the former seems to have been a lesser known local god at the city of Mušašir.

Haldi was chosen by Išpuini as the supreme god, and as the protector of their dynastic line appears in Assyrian records as early as the 13th century BC.[10] The introduction of Haldi as the head of the official Urartian pantheon in the Meher Kapısı inscription by Išpuini at the end of 9th century BC seemingly intended to distinguish Urartian identity from that of other contemporary states in the Near East and to unify the disparate tribes who inhabited eastern Anatolia and north-west Iran. As a divine representative of the state Haldi was one of the main unifying forces and a representative of Haldi, the king was the head priest. War and construction activities were always carried out in the name of Haldi. It is likely that Haldi was a relatively new god to most of the population who made up the Urartian kingdom and instead of choosing a supreme god from the available choices within the kingdom, Urartian kings promoted their own creation of Haldi to preside over the pantheon.

[7] A 9-3VII line 2/ UKN 155 G.
[8] The logogram *^{GIŠ}GU.ZA* (=*^{LÚ}AD(-si)-ni e-si*) in the Gövelek inscription (A 14-1 Ro line 9) which was translated as 'the paternal place' was considered by Salvini (2002b: 126) to be the equivalent to 'throne', while Khachikyan (2006: 145) pointed out that '*LUGÁl-tú-hi-ni-na*', the attribute of *^{GIŠ}GU.ZA* should be analysed as the genitive form of the abstract noun '*ernutuhe*', as 'kingship' or 'reign'.
[9] Wilhelm 1989: 49-76.
[10] Haldi's name first appears in an administrative tablet from Tell Billa (dated Adad-nirari I (1305-1274) and Salmaneser I), located 24 km north-east of Mosul, where 'Hal-di-e […]' is listed among the other names (Finkelstein 1953: 115). His name also appears in the 10th century BC among merchants and individuals names such as Haldi-Nasir, Haldi-Ibni, Haldi-Etir and Haldi-ila'i (Kohler 1913: 438, 9; 373, 30; 87, 29; 159, 35).

III.5.3. The Monarch and the Royal Succession

Urartian kingship (*erelinusi*) was hereditary and judging from the annals of its kings, it seems to have passed from father to son – probably the oldest son. It appears that the same family ruled throughout the life time of the kingdom.

The naming of a crown prince so that he could to gain experience as a ruler and subsequently to ascend to the throne after his predecessor's death was introduced during the reign of king Išpuini who named his son Minua as his successor to be followed by his grandson Inušpua. This arrangement was widely considered to show that the institution of co-regency was established during Išpuini's reign. There are 12 inscriptions in which Išpuini and his son Minua both mentioned together, but only on two occasions at the Yeşilalıç and Kelsihin (A 3-2 and A 3-11) the royal titles are mentioned and on both occasions the royal titles are refer to Išpuini, son of Sarduri, as the '*...mighty king, great king, king of the land of Biainili, ruler of the city of Tušpa*'. The Yeşilalıç inscription concern the construction of a *susi* temple for Haldi and the Kelsihin mention a visit to the city of Mušašir by Išpuini and his son Minua. Some of those inscriptions deal with religious activities such as at Meher Kapısı (Figure 43)[11] and Kelishin (Figure 53)[12] and others were concerned with military activities like Karagündüz[13] and others.[14] However it can be argued that the texts that named both Išpuini[15] and his son Minua were later than those bearing only Išpuini's name. Also it can be argued that as a crown prince Minua (see III.5.1 for ^{LÚ}*a-ṣu-li)* may have took over the command of the army towards the end of his elderly father reign considering that majority of inscriptions that both named Išpuini and his son Minua are concerning military activities. But it is interesting to note the absence of royal titles in these inscriptions. However there is no clear evidence from Urartian cuneiform inscriptions that Išpuini and his son Minua ruled together.

However the name of Inušpua does appear in a number of inscriptions during the reign of Išpuini and his son Minua. His name first appears in two inscriptions during the reign of Išpuini, one from the east of Van Kalesi called Tebriz Kapısı, which deals with the erection of a '*susi*' temple and a 'Gate of Haldi' in Tušpa dedicated to Haldi[16] and the other one from

[11] A 3-1.
[12] A 3-11.
[13] A 3-9.
[14] A 3-4, 3-5, 3-6, 3-7.
[15] The inscriptions that only contained Išpuini's name are mainly concerned with building activities in the Lake Van basin such as at Aşağı Anzaf, Zivistan and Patnos and were usually dated to the early years of his reign.
[16] A 4-1 / UKN 18.

Patnos which mentions a '*susi*' temple for the god Ua.[17] However, apart from cuneiform inscriptions there are also five inscribed bronze discs[18] from Yukarı Anzaf with the name of Išpuini, his son and grandson. His name also appears with his father Minua on three stelae (*pu-lu-si*) dedicated to Haldi[19], Ḫatuini[20] and Šiuini[21], respectively.

There are no further mentions of Inušpua in cuneiform inscriptions. It appears that Inušpua have been named as a crown prince on royal inscriptions set up by his grandfather and father, and was in line to succeed Minua, but he was never a king in his own right and it is known that Argišti I succeeded his father Minua to the throne. One can argue that the disappearance of his name might be explained by a sudden death or revolt against his father's rule. Although it is hard to know the fate of Inušpua, the written evidence from Patnos, such as horse knobs (probably belong to horse harness)[22] and a bronze disc with a short statement of ownership of '*urišḫusini'* which is considered to translate as 'treasury' of the king or crown prince (see II.3.4.2) may provide evidence for his fate. There is further written evidence on Inušpua. Inscribed in Assyrian on a silver bucket is the following: '*Išpuini, son of Sarduri, gave this situla to Inušpua, his dear kibāru/kibarru*'.[23] It is interesting to note the absence of Minua's name; there is mention of Išpuini's father but not of Inušpua's father. Taking into account that all the inscribed bronze artefacts were exclusively made for the king and the interpretation of the term '*urišḫusini*' that appears on these bronze objects suggests the royal power, as well as his sudden disappearance from Urartian royal inscriptions, one could argue that he might somehow have been involved in a revolt against his father. However with so little evidence in our possession it is hard to reach a definitive conclusion about Inušpua's fate.

It should be said that in these inscriptions the royal titulary is never applied to the son or grandson. It seems that Minua, like his son Inušpua, was designated well in advance as an heir to the throne in order to prevent any conflict that may arise over the succession to the Urartian throne either within different factions of the royal family or among the tribes who made up the kingdom. The tradition of naming a crown prince in order to avoid internal power struggles was practiced in Assyria, where the ruling king chose an heir during his own

[17] A 3-12.
[18] B 4-1A-D.
[19] A 5-71 / UKN 93.
[20] A 5-79 / UKN 94.
[21] A 5-80 / UKN 95.
[22] B-7.
[23] B 2-4.

lifetime[24] and who was expected gain experience in administrative and military matters. For example, Sargon II (721-705 BC) chose Sennacherib (714-681 BC) as his heir and Sennacherib in return named his son Esarhaddon (680-669 BC) as his crown prince.[25] However, the tradition of naming a crown prince in Urartian inscriptions did not continue after the disappearance of Inušpua during the reign of Minua. The name of Argišti, who succeeded Minua, was never mentioned in his father's inscriptions. Therefore, it seems that after Inušpua, the system of naming a crown prince in cuneiform inscriptions ended, although we know that Melartua was a crown prince during the reign of Rusa and Sargon II mentioned how the Urartians crowned their crown prince at Mušašir in the Haldi temple.

The name of Melartua, son of Rusa I, who is known from Assyrian letters, is not attested in Urartian written sources. In a fragmentary letter to the Assyrian king Sargon II by the herald Gab[bu-ana-Aššur, Melartua is mentioned in connection with the Urartian army. The letter reports that the Urartian king had assembled his army in Wazana and his son Melartua and Abaliuqunu, '*the governor* [*of* ...]', were accompanying the king (SAA V 114). Melartua's name as a crown prince is associated with a revolt against his father Rusa (SAA V 90) when he suffered a defeat at the hand of the Cimmerians. After the battle the king fled and the rest of the army, without realising that the king had escaped, declared the crown prince Melartua as the new king (SAA V 90).

III.5.4. Royal Titles

Urartian inscriptions that contain royal titles can provide information about ideas of kingship, as well as the power, authority[26] and the ideologies expressed by the monarchy. The name of the king and his titles were an essential part of the cuneiform inscriptions of Urartian kings with the exception of damaged inscriptions that fail to reveal this information.[27] By studying the historical meaning of the first royal titles and the subsequent diachronic variations throughout the lifetime of the kingdom it may be possible to analyse changes in the use of titles accordance with political developments during the reign of a king, and to ascertain whether the changes are potentially deliberate adaptations to new socio-political circumstances. Therefore, it is important to recognize the political realities behind the use of titles and changes that can provide us with useful information about the socio-economic

[24] Radner 2003: 166; 2010: 27.
[25] Although Urdu-Mullissi was Sennacherib first choice who had been his crown prince, but later dismissed by his father who in return killed Sennacherib in 681 BC (Radner 2003: 165-184).
[26] Parker 2011: 358.
[27] Zimansky 1985: 50.

organisation of the Urartian kingdom. Although the titles used by the Urartian kings were not as exhaustive as those of contemporary Assyrian kings[28], they do show consistency from the reign of Išpuini onwards. Nevertheless, the formulation of epithets indicates their conscious and intentional use by the rulers of Urartu.

III.5.4.1. The Standard Titles

Urartian kings used various titles in their display inscriptions such as '*MAN DAN-NU*' 'mighty king', '*MAN alsuini*' 'great king', '*MAN KUR.KUR'* (šurahe)'king of the countries', '*MAN MAN^{MEŠ}-úe*' 'king of kings', '*alusi ^{URU}ṭurušpa URU*' 'lord of the city of Tušpa' and '*MAN ^{KUR}biainaúe*' 'king of Biainili' (see Table 31). The above titles were referred to as 'standard'[29] titles and were used by almost every Urartian king with exception of Rusa I, who only used the title 'mighty king'.

Sarduri I, son of Lutipri is the first Urartian king known to have left inscriptions carved in Akkadian at the foot of the rock of the Van Kalesi, inscribed on the wall of the so-called 'Sardurburg' or 'Madırburc' and claiming to be '*...great king, mighty king, king of the universe, king of Nairi, king who has no equal, wonderful shepherd who does not fear battle, king who makes the insubordinate submit,* (*I am*) *Sarduri, son of Lutibri, king of kings, who have received tribute from all kings*' (Figure 52).[30] Zimansky[31] noted that the same titles with the substitution of 'king of Assur' for 'king of Nairi' and the use of '*king of kings, who have received tribute from all kings*' are found in the titulary of Assyrian king Aššurnasirpal II. Although the influence of Assyrian standard titles in the use of epithets is clear, the use of 'king of kings' probably also reflected the political organisation of the Urartian kingdom during the reign of Sarduri I.

The military campaigns of Assyrian kings against Uruatri and Nairi refer on numerous occasions to tribal groups and their kings. For example, Tiglath-Pileser I confronted one such tribal coalition, headed by 23 kings and on another occasion 60 kings from Nairi, near Karasu in the Murat River valley.[32] Therefore the use of the title 'king of kings' is very likely to reflect the success of Sarduri and his effort to unite the tribes or polities that existed prior to the formation of the Urartian kingdom. In other words, other kings existed but they were not sufficiently powerful to resist the superior might of Sarduri.

[28] Liverani 1981: 225-258; Cifola 1995.
[29] Roaf 2012: 194.
[30] A 1-1 / UKN 1-3, UKN II 319-325a-c.
[31] Zimansky 1985: 51.
[32] ARAB I 236.

The use of the same title by the successors of Sarduri I may have been a deliberate and conscious decision to enforce the tribute paid by small vassal states or local rulers and tribal leaders who are known to have paid either annual or surrender tribute to Urartian kings. For example, king Minua received tribute from Etiuni[33], Diauehi[34]; Argišti I from Diauehi[35]; Sarduri II from Qumaha[36]; Argišti I records the extraction of tribute from the kingdom of Diauehi[37], and Rusa I received annual tributes from the tribes and local rulers in modern Armenia (see III.4.5).[38] Furthermore the small states that existed between the Assyrian and Urartian kingdoms, such as Šubria, Hubuškia and Kumme[39] were known to have paid tribute to both Assyria and Urartu, and maintained an uneasy independence by changing their allegiances. For instance, the king of Hubuškia is known to have co-operated with Rusa[40], but he also appears to have paid tribute to Sargon II before and after battle.[41] It also appears that Urzana, the ruler of the Mušašir, had maintained an uneasy relationship with Rusa of Urartu and Sargon II of Assyria despite Mušašir being the main sanctuary of the Urartian national god. As mentioned below, the Topzawa, Monava and Mergeh Kervan inscriptions of Rusa I mention the military opposition of Urzana to Rusa, his flight into Assyria and his subsequent recapture and reinstatement as the king of Mušašir. One of the Assyrian letters (SAA V 145) mentions that the Urartian king asked Urzana to provide military aid during the Cimmerian attack. All this evidence seems to justify the use of 'king of kings' by Urartian rulers and reflected the political realities of the time.

However from the reign of Sarduri I onward, as the kingdom expanded its territory, the epithets used by Urartian kings adjusted to reflect the new socio-political structure of the kingdom. Although the successors of Sarduri I continued to use basic titles such as '*LUGÁL DAN-NU*' 'mighty king', '*LUGÁL al-su-i-ni*' and 'great king' from the reign of Išpuini onward, virtually every titulary formula contains '*a-lu-si* ^{URU}*ṭu-uš-a URU*' 'lord of the city of Tušpa' which seems to highlight the importance of Tušpa to Urartian rulers. Also instead of using 'king of Nairi' to reflect the changing political situation the phrase '*LUGÁL* ^{KUR}*bi-a-i-na-ú-e*' 'king of Biainili' was adopted by Urartian kings.

[33] A 5-1 / UKN 30, A 5-2 / UKN 34.
[34] A 5-3 / UKN 36.
[35] A 8-2 Vo / UKN 128 B1.
[36] A 9-3 IV / UKN 155 E.
[37] A 8-2 Vo / UKN 128 B1.
[38] A 10-2 / UKN 266.
[39] For example, it appears that Argišti requested homage from the king of Kumme (SAA V 95).
[40] SAA V 162.
[41] ARAB II 56 and 168; SAA V 133.

The titles of Urartian kings always begin with 'mighty king' and end with 'lord of the city of Tušpa'. For instance, Sarduri II after his military campaign to the southern shore of the Lake Sevan basin in Tsovak inscription (A 9-7/ UKN 161) stated:

'^{D}ḫal-di-ni-ni al-su-i-ši-ni ^{mD}sar$_5$-du-ri-ni ^{m}ar-giš-ti-e-ḫi LUGÁL DAN-NU LUGÁL GAL-ni (alsuini)[42] *KUR.KUR LUGÁL LUGÁL^{MEŠ} a-lu-si ^{URU}ṭu-uš-pa-a-e URU' 'For the greatness of Haldi (I am) Sarduri, the son of Argišti, mighty king, great king, king of kings, lord of the city of Tušpa'.*

Basic titles such as 'mighty king' and 'great king' were used by virtually all Urartian kings and seems to highlight the importance of the king's image, status and the political and military power of the monarch.

III.5.4.2. The Exceptional Titles

The 'exceptional'[43] or 'rare' titles such as '*^{LÚ}sie muṣi ^{LÚ}UN^{MEŠ}úe*' 'the true shepherd of the people' were used by Rusa I and Argišti II and '*Haldi ^{LÚ}ÍR'* 'the servant of Haldi' by Rusa I, Argišti II and Rusa II (see Table 32). Both of these titles were also used by Rusa I in the Assyrian version of his Monava and Topzawa stelae. Another title that appears to be used only by Rusa I was in the Nor-Bayazet inscription, located in the Lake Sevan region, as '*aluše ^{KUR}biainili nulduali*' 'the one who ruled the country of Biainili'.

The last exceptional title, '*Šebitúi ^{LÚ}ÍR*' the 'servant of Šebuti', was again used only by Rusa I and appears in the Mahmud Abad inscription (A 10-6 line 9) from near Lake Urmia (see Table 32). Diakonoff[44] translated the word '*a-ni-ia-ar-du-ni*' in A 10-6 line 11 as 'sinner' or 'guilty' and suggested that Rusa might have destroyed the temple of Šebuti and then repented, which led him to rebuild it while cursing those who would destroy it again. By contrast, Salvini[45] suggested that it should be translated as 'vassal' or 'subject' while Melikishvili[46] reads it as 'independent'. If Diakonoff is correct in his view the translation of '*a-ni-ia-ar-du-ni*' it might explain why Rusa used the epithet 'servant of Šebuti'. However, this remains only a suggestion.

Whether Diakonoff's suggestion is correct or not, the phrase of '*X ^{LÚ}ÍR*' 'X's servant' appears in Urartian inscriptions as '*^{D}Hal-di-e-i ^{LÚ}ÍR*' and it is unusual to associate it with the

[42] Salvini 2002a: 48.
[43] Roaf 2012: 195.
[44] Diakonoff 1989: 94
[45] Salvini 1977: 135.
[46] Melikishvili 1971: 79.

god Šebitu. For instance, it appears in the bilingual inscription of Topzawa, dated to the reign of Rusa I, both in Urartian (A 10-5 Ro lines 24-25) as '^{D}*Hal-di-e-i* [^{LÚ}*Í*]*R*' and in the Assyrian version (A 10-5 Vo lines 22-23) as '^{LÚ}*ÍR šá* ^{D}*ḫal-di-e-a*'. It appears that the god Šebuti was a local deity in the Lake Urmia region. In the same inscription Rusa also mentioned sacrificial rituals to the gods Šebitu and Artuarasau as well as the 'Gate of Šebuti'. The god Šebuti ranked eighth in the Meher Kapısı inscription with two bulls and four sheep as sacrificial animals.

In the bilingual inscriptions of Monova (A 10-3), Topzawa (A 10-5 / UKN 264) and Mergeh Karavan (A 10-4), Rusa I claimed to be '^{LÚ}*sie muṣi* ^{LÚ}*UN*^{MEŠ}*úe*' 'the true shepherd of the people'. These three texts mention the defeat of Urzana, king of Mušašir, who had behaved like an enemy against Rusa, and prevented him from entering Haldi's temple. Rusa stated that Urzana had escaped to Assyria and it is likely that Sargon II supported him against Rusa, but at Mount Andarutu Urzana was taken prisoner and again put on the throne of Mušašir but this time as a vassal king. The same inscriptions state that Rusa stayed for days to celebrate some rites in the Haldi sanctuary. The same title is also mentioned in Sargon II's eighth campaign, when he gave information about the coronation of the Urartian king in Mušašir.[47] It is likely that the use of this title reflected the political circumstances of the time and defined the relationship between the king and his subjects: a good relationship between the king and Haldi which perhaps indicates the king's right to be the shepherd (^{LÚ}*sie*) of his people. Rusa claims in the Monava inscription (at line 54) that '...he does not fear the fight' further highlighted the political situation of the time. The same title also appears to be used by the successors of Rusa I such as Argišti II[48], and Rusa II[49], son of Erimena.

III.5.5. The King's Officials

In the following section an attempt will be made to discuss the personnel known from the Urartian and Assyrian administrative documents, in order of their rank, and as they appear in royal administrative documents of the Urartian and Assyrian kingdoms. The officials who were direct recipients of royal orders in clay tablets include ^{LÚ}NA$_4$.DIB, ^{LÚ}NÍG.ŠID, ^{LÚ}*É.GAL*, ^{LÚ}*KÚ*^{MEŠ} and ^{LÚ}*IGI.LÁ* with the exception of ^{LÚ}*a-ṣu-li* who was the second highest ranking official in the Urartian kingdom but who rather than receiving royal orders, judging by the content of cuneiform tablets at least, gave orders to other officials (see III.5.5.1).

[47] ARAB II 171, 8th Campaign, line 339.
[48] A 11-2 Vo line 34 / UKN 276.
[49] A 14 Vo line 31.

Urartian display inscriptions and administrative documents lack any information about two of the most important officials in the Urartian realm, namely the ^{LÚ}*turtānu* and ^{LÚ}*EN.NAM* and we have to rely on Assyrian administrative documents about both of these officials. Furthermore we have the list of palace or citadel personal (CT Tk-1 / UPD 12 and CT Çav-1-2), which gives us an insight into the way the Urartian citadels were organised. The evidence in our possession suggests that a number of officials and functionaries were directly accountable to the king.

III.5.5.1. LÚa-ṣu-li (^{LÚ}*A.ZUM-li*)

One of the most important officials in the administration was the ^{LÚ}*a-ṣu-li* (^{LÚ}*A.ZUM-li*), who appears to be the second highest ranking official in the Urartian administrative hierarchy according to cuneiform tablets recovered from sites such as Karmir-Blur, Bastam, Toprakkale and Ayanis. The title known as ^{LÚ}*A.NIN-li*[50], based on new epigraphic understanding of seal impressions from Ayanis, Bastam, Yukarı Anzaf and Karmir-Blur, ideographically read ^{LÚ}*A.ZUM-li* and phonetically as ^{LÚ}*a-ṣu-li*[51] was considered to be the 'queen's son' or the 'legitimate prince'. However since the new reading of the title it has been argued that it has to be interpreted differently; not as 'prince' but rather as the title of a government official.[52] Although Ursula Hellwag suggested that the term represented the office of 'minister for water'[53], her argument is hardly convincing and the real function of the title remains unknown.

The evidence in our possession contradicts Hellwag suggestions that the title represent a person or persons who were in charge of water management or water facilities. None of the tablets that bear this title have anything to do with water. As has been pointed out by Zimansky, the position of the ^{LÚ}*a-ṣu-li* (^{LÚ}*A.NIN-li*) in the Urartian administrative hierarchy is intertwined with that of the king and who appears to be the second highest ranking official in the Urartian kingdom. Official letters from Karmir-Blur and Bastam as well as numerous *bullae* from Bastam, Ayanis and Toprakkale were impressed with this title. The seal used by the ^{LÚ}*a-ṣu-li* are cylinder stamp seals and bear the same iconography – a sacred tree (tree of life) with *genii* on the both sides[54] stylistically similar to seals of the Urartian kings.[55] In these

[50] Diakonoff 1963a: 62; Salvini 1979a: 122; Zimansky 1985: 84-85.
[51] Çilingiroğlu and Salvini 2001: 23; Hellwag 2005: 91-98.
[52] Çilingiroğlu and Salvini 2001: 23; Hellwag 2005: 91-98.
[53] Hellwag 2005: 96.
[54] Hellwag 2005: 96.
[55] Zimansky 1985: 85.

seal impressions and tablets the names of a person and his father are given. For example, a tablet from Karmir-Blur (CT Kb-4 / UPD 4) sealed by Rusa, son of Rusa, who bears the title ^{LÚ}*a-ṣu-li* is concerned with the return of a girl who had been abducted by a slave; Bastam I (CT Ba-1) sealed by Rusa son of Sarduri and addressed to a ^{LÚ}NA$_4$.DIB concerned the legal right to a garden[56]; Bastam II again sealed by same person and addressed to an individual titled ^{LÚ}*É.GAL* (man [chief] of the fortress) mention the distribution of bread to certain people (CT Ba-2).[57] On the other hand in CT Kb-7 / UPD 7 where the sender appeared to report the movement of certain people, commodities and animals it appears that the ^{LÚ}*EN.NAM* (provincial governor) was superior to ^{LÚ}*a-ṣu-li*. However in this case the name of the person is not given but his title is present.

As can be seen from the above evidence the persons who bear the title had dynastic names and patronyms, were clearly members of the royal family and had the authority to write and seal letters.[58] Although it is not known if these individuals were crown princes or if their fathers were reigning sovereign kings, the connection between them and the monarch in terms of the stylistic similarity of the seals and the names of the Urartian kings is clear. Despite the appearance of ^{LÚ}*a-ṣu-li* in royal correspondence it is hard to define his position and role in the Urartian administrative hierarchy. However since the persons who bear this title had dynastic names and patronyms as well as the ability to issues orders which were similar to those given by the king himself, maybe we should reconsider Diakonoff's suggestion that this official is a crown prince. The role of ^{LÚ}*a-ṣu-li* seems to resemble the Neo-Assyrian royal representative '*ša qurbūti*' who Nicholas Postgate described as the 'royal representative par excellence'[59] and who was active in the 8th and 7th centuries BC. It must also refer to the 'immediate entourage of the king or member of royal family' who was a higher ranking officer, working either on his own or in collaboration with local officials and who was in charge of a wide variety of matters.[60]

III.5.5.2. The Personnel of *Rusaḫinili* ^{KUR}*Qilbani=kai*

One of the clay tablets (CT Tk-1 Ro / UPD 12) from the site of Toprakkale provides us with a unique insight into the administrative structure of the kingdom and the royal bureaucracy, and therefore it is worth mentioning here the contents of the whole text. The

[56] Salvini 1979a: 118-123; Diakonoff 1989: 84.
[57] Salvini 1979a: 124-125; Diakonoff 1989: 90-95.
[58] Çilingiroğlu and Salvini 2001: 23-24.
[59] Postgate 2007: 341.
[60] Postgate 2007: 341-343.

text mentions 18 different categories of personal in 27 lines and seven paragraphs with a grand total of 5,507 persons. It begins with an event that took place in a certain year[61] and lists the personnel employed in the royal household of Rusaḫinili ^{KUR}Qilbani=kai as follows:

'*That year of*(*?*) *Rusa son of Argišti, when Šagaputara*[62] *of the country of Išqugulu went to the land of Mana on the place* (*throne?*) *of Aka'a,* (*and*) *as god Haldi set me as king in Rusaḫinili in front of Mount Qilbani*[63] *in the sanctuary of É.BÁRA.*[64] *These:*

104 tardašhe, 1009 kiri-ne-i <u>in all 1113 mare</u>;

2409 boys (*arše*)*, 119 before the 'treasurer'* (*^{LÚ}NÍG.ŠID.DA-ka-i*), *68 weavers, 1188 keepers of* (*hunting-*)*dogs, <u>in all 3784 eunuchs</u>;*

300 Šure-le (*worriers of the tribal militaria? 'swords*), *90 ^{LÚ}UKÚ-še* (*local*) *'population' , 108 eunuchs of the palace* (*fortress*), *35 halbio* (*bachelors?*), *10 wine-growers* (*^{LÚ}É.TIN^{MEŠ}-ne*), *16 LÚ/ṣip-ik-â(e)-ne <u>in all 168 ešiate</u>*(*?*)*;*

15 (*under the authority*) *of* (*one*) *Ubiabe, 7 muleteers, 20 men of* (*the instrument or utensil*) *^{GIŠ}ga/ú-ru-úr-da-a, 10 men* (*of the land*) *Pulio <u>in all 52 ^{LÚ}UKÚ/qaitâ(e)-ne</u>*

<u>Total 5507 men'</u>.[65]

The tablet is clearly an administrative text concerned with various social groups and professions, although Zimansky has argued otherwise.[66] The list includes weavers, keepers of (hunting-)dogs, eunuchs, bachelors?, wine-growers or cup-bearers, and tribal warriors. Similarly, two fragmentary administrative tablets from Çavuştepe also list personal names and their occupations.[67] Although both of these texts are fragmentary and mostly untranslatable, the job titles that are listed in both texts suggest that they refer to the personnel of the Çavuştepe citadel, as is the case in the Toprakkale text.

Excavations at sites such as Karmir-Blur, Ayanis, Çavuştepe, Bastam and Arinberd show that Urartian citadels were not just the royal residences of the king or provincial governors, but that they also consisted of large complexes that included temples, storage rooms, workshops, administrative and public buildings as well as employing a certain number

[61] A second text on a *bulla* from Bastam mentions that an event as follows: '*year* (*in which*) *Rusa son of Argišti, laid to the throne Rusaḫinili in front of Mount Qilbani*' (CB Ba 78-146) Çilingiroğlu and Salvini 2001: 17; Salvini 2012a: 199 r.3).
[62] Diakonoff reads it as '*šá-ga DUMU tar-a*' (Salvini 2001b: 262).
[63] Çilingiroğlu and Salvini 2001: 17.
[64] CT Tk-1; Salvini 2012a: 145.
[65] Diakonoff 1989: 99.
[66] Zimansky (1985: 79 and 82) argued that although the palace name is given at the beginning of the text it does not occur again anywhere in the text. Therefore we cannot claimed that it represent palace personnel of Rusaḫinili ^{KUR}Qilbani=kai.
[67] Dinçol *et. al.* 2001: 195-202.

of personnel (for instance Toprakkale CT Tk-1 Ro and Çavuştepe CT Çav-1 and 2). Although the evidence from Toprakkale presented above seems to primarily concerned with a 'central bureaucracy' either for the site itself – even though considering the size of the site this is unlikely- or for the capital of the kingdom Tušpa since both sites are not too far away from one another or if the site to be proven as religious centre as is argued above, the list may represent both the personal of Toprakkale and Meher Kapısı, therefore not just representing the personnel of this citadel. On the other hand the Çavuştepe texts were likely to be about administration of this site. These tablets provide us with important information relating to the organization of individual citadels or religious centre(?), and the management of huge storage buildings and other facilities. This is compatible with other Urartian administrative documents and Assyrian royal texts, where a number of the king's officials appeared to operate within the kingdom in the name of king.

III.5.5.3. Other Officials

In the cuneiform tablets below the ^{LÚ}*a-ṣu-li* – apart from *turtānu* and ^{LÚ}*EN.NAM* - in the administrative hierarchy a number of officials were recipients of royal orders. For example, the name of ^{LÚ}*NA$_4$.DIB* appears on a number of clay tablets (Karmir-Blur CT Kb-1 Ro 1, 2, 4, 6 / UPD[68] 1, 2, 4, 6 and Bastam CT Ba-1 and 3)[69] and is translated as 'seal bearer' or 'seal holder'.[70] The letters sent to ^{LÚ}NA$_4$.DIB were sealed by ^{LÚ}*a-ṣu-li* with the exception of CT Kb-4 Ro / UPD 4 in which the sender's part is broken away.[71] The person identified at Bastam[72] as a ^{LÚ}*NA$_4$.DIB* and called Išpiliúqu also appears at Yukarı Anzaf (CT An-1 line 20) where the distribution of weapons to 16 men is mentioned. Zimansky[73] argued that either there were several individuals with this title –because of contemporaneousness of Bastam and Karmir-Blur where the evidence in discussion originated - or there was one person who moved from one place to another. Whether there was one or more than one official, the available evidence suggests that the duties and obligations of this official (or officials) were wide-ranging.

[68] Diakonoff 1963a: 32-35.
[69] Salvini 1979: 118-119.
[70] Zimansky 1985: 87; Salvini 1979a: 117.
[71] The texts that mention this title are concerned with the return of a house to two individuals (CT Kb-1 Ro / UPD 1), one horse for the army and six head of cattle (CT Kb-2 /UPD 2), a shepherd who abducted a girl (CT Kb-4 / UPD 4) and return of a garden to certain persons (CT Ba-1; Salvini 1979a: 118-123; Diakonoff 1989: 84).
[72] CT Ba-1 line 2; Salvini 1979: 118.
[73] Zimansky 1985: 87.

The title ^{LÚ}*NÍG.ŠID* appears in two tablets, one from Karmir-Blur (CT Kb-2 / UPD 2) and the other from Toprakkale (CT Tk-1 line 12 / UPD 12) and is translated as 'accountant'. In the Karmir-Blur letter, where is mentioned one horse for the army and six head of cattle, the ^{LÚ}*NÍG.ŠID* is the second addressee after ^{LÚ}*NA$_4$.DIB*. In the personal list of Toprakkale this title is listed as: '119 before the 'treasurer' (^{LÚ}*NÍG.ŠID.DA-ka-i*) among the ^{LÚ}*ŠÁ RĒŠI^{MEŠ}* (eunuchs).[74] One may argue that the reading of the extra sign (*DA-ka-i*) in the logogram[75] from the Toprakkale tablet was an indication of him being a superior to other accountants, a 'chief accountant' since he was employed at the capital/religious centre and command a considerable number of individuals. However it is not clear if ^{LÚ}*NÍG.ŠID* himself was a ^{LÚ}*ŠÁ RĒŠI^{MEŠ}*. Since our evidence regarding ^{LÚ}*NÍG.ŠID* comes from the contemporary sites of Karmir-Blur and Toprakkale, it is reasonable to assume that there were several individuals with this title, unless several individuals with this title moved from one place to another.

In a tablet from Bastam (CT Ba-1) the logogram ^{LÚ}*NAM^{MEŠ}* was used to refer to the 'governor' of the city of Aisuabzuni, who intervened even a disputed garden. The logogram ^{LÚ}*IGI.LÁ* also appears in one of the tablets from Bastam (CT Ba-3 Ro) and was translated by Salvini[76] as 'overseer' or 'inspector'.[77]

Last but not least, eunuchs also should be mentioned. The Toprakkale tablet (CT Tk-1 Ro / UPD 12) mentions 3784 eunuchs (^{LÚ}*ŠÁ RĒŠI^{MEŠ}*) among the other officials of Rusaḫinili ^{KUR}Qilbani=kai (see III.5.5.2). A letter of Aššur-reṣawa (SAA V 91) records a eunuch chief tailor called Naragê, who was accused of being involved in a revolt against the king (see III.1.3.1 for the detail of revolt). Both these tablets indicate that a substantial number of eunuchs were employed in bureaucracy and they held some of the highest offices.

III.5.6. The King as an Administrator

The royal inscriptions of Urartian kings contain almost no information about the administration of the kingdom, or the king's role in governing. But the administrative documents (clay tablets, seals and seal impressions) that have come down to us show that the

[74] Diakonoff 1963a: 39 and 81; 1989: 99.
[75] Zimansky 1985: 127 no. 112.
[76] Salvini 1979a: 126.
[77] Another official mentioned in cuneiform tablets is the ^{LÚ}*KÚ^{MEŠ}* and is translated as 'man of the money' (Zimansky 1985: 88) but the content of the letter where this title occurs contradicts this interpretation. The second line of a partially preserved letter CT Kb-3 /UPD 3 from Karmir-Blur was interpreted by Salvini as '^{md}*ḫal-di-bura(ÍR)-di* ^{LÚ}*KÚ^{MEŠ}*' *'a gold-smith in Haldi-bura*' and there is no connection between the content of the letter and being the man of money.

king maintained close personal involvement in the day-to-day administration of his kingdom. All display inscriptions were erected in the name of the reigning king. Similarly, inscribed metal objects, vessels and other materials to a certain degree were associated with Urartian kingship. There is, however, almost no information in these inscriptions about the administrative structure of the Urartian realm. But, on the other hand, administrative documents of the 7th century BC from sites such as Karmir-Blur, Bastam, Toprakkale, Ayanis[78], Çavuştepe[79] and Yukarı Anzaf[80] – 20 or so - and Assyrian letters of the same period are very informative in terms of their content and of Urartian kingship, the personnel and activities of the royal bureaucracy.

The administrative documents consist of clay tablets, seals and seal impressions and mostly come from citadels that were constructed during the reign of Rusa (III) son of Argišti, which led Mirjo Salvini to suggest that the use of clay tablets, seals and subsequently *bullae* were an innovation of that king.[81] Until recently the clay tablets were only known from the sites that were constructed by Rusa III (Bastam, Karmir-Blur and Ayanis), but the publication of the Çavuştepe[82] and Yukarı Anzaf tablets (constructed by Sarduri II and Minua, respectively), show that clay tablets were not just confined to sites founded by Rusa III but that the use of clay tablets and *bullae* was a more widespread practice. But like other written materials, tablets and *bullae* were also associated with the activities of central government.

The administrative tablets contain instructions for officials who were employed by the kingdom in the various citadels built by the Urartian kings. Some of the tablets that mention the king's name (CT Kb-1 / UPD 1 and CT Tk-1/ UPD 12) and his title in the text (CT Tk-1/ UPD 12) are sealed with the either the king's seal or the seal of ^{LÚ}*a-ṣu-li* (see III.5.5.1). These texts show that the king could interfere in a great variety of matters such as in the affair of a shepherd who abducted a girl (CT Kb-4 / UPD 4)[83], a disputed garden[84], an order to be carried out by two individuals (CB An-1) and even the distribution of bread to certain people.[85] One can notice how the king himself made most of the decisions on even the most minor matters and appeared to leave little scope for his officials to take any initiative.

[78] CT Ay-1-2; CB Ay-1-12; Salvini 2001d: 279-292.
[79] CT Çav-1-2; Dinçol *et. al.* 2001: 195-202.
[80] CT An-1, CB An-1; Belli and Salvini 2003: 141-152.
[81] Salvini 2006a: 114.
[82] The Çavuştepe clay tablets were mentioned by Afif Erzen (Erzen 1965: 144; 1970: 498) in his excavations reports and not published until recently (CT Çav-1-2; Dinçol *et. al.* 2001: 195-202).
[83] Diakonoff 1963a: 34.
[84] Salvini 1979a: 118-123; Diakonoff 1989: 84.
[85] Salvini 1979a: 124-125; Diakonoff 1989: 90-95.

However this may not be the case when it comes to dealing with his provincial or less important administrative affairs. As pointed out by Zimansky[86], there is the lack of any evidence in regard to the royal administrative activities from sites such as Kayalıdere, Patnos, Altıntepe, Arinberd and Armavir. Typically these sites contained palaces, temples, storage facilities and the sorts of other administrative buildings that usually occur in Urartian citadels. However, the finds from Çavuştepe and Yukarı Anzaf indicate that royal administrative activities were not only confined to the sites built by Rusa III and future excavations may uncover more written documents from other sites too. Furthermore it should be pointed out that the site of Kayalıdere was only partially excavated; after the construction of Teišebai (Karmir-Blur) by Rusa III the site of Arinberd (Erebuni) was abandoned and the artefacts and other materials that were kept in its storerooms were transferred to the site of Karmir-Blur[87]; at Altıntepe there were cuneiform inscriptions and the site was considered to be on the periphery of the kingdom and therefore the lack of administrative documents may have simply to do with mere chance of survival and recovery of it. The recovery of school tablets from Ayanis also indicates that scribes were training there during reign of Rusa III.[88]

The vocabulary used to express the king's order in the cuneiform tablets is as follows: '*LUGAL-še ali*' 'the king speaks' (CT Ba-1 and 2, CT Kb-3 / UPD 3 and CB An-1) which shows that the authority of the monarch might have been expressed without the king's actual involvement. For example, in the Bastam tablets (CT Ba-1 and 2) where the king's order is mentioned, the tablets were sealed with ^{LÚ}*a-ṣu-li* not with the king's seal. In case of the Yukarı Anzaf tablet (CB An-1), where the king's order is mentioned, the complete translation of it is not known and with exception of the beginning of CT Kb-3 / UPD 3 the rest of the text is only partially preserved. Although Zimansky suggested that the letters contained direct orders from the king himself it is hard to explain because they were sealed with ^{LÚ}*a-ṣu-li* seal not the king. Since ^{LÚ}*a-ṣu-li* was the second highest officials in the Urartian realm and his dynastic names and patronyms suggest he was clearly a member of royal family, it is quite reasonable that the instructions of the king were sealed with his seal.

While it is likely that over the course of time the administrative structure of the kingdom changed and showed regional variations, the materials in our possession suggest that at least in the 7th century BC the Urartian king or his authority was exercised at major centres such as Karmir-Blur, Ayanis, Yukarı Anzaf and Bastam.

[86] Zimansky 1985: 83.
[87] Piotrovsky 1969: 71; 1970: 24.
[88] CT Ay-1; Salvini 2001d: 312-315.

III.5.7. Conclusion

Overall, while the kingdom probably changed over the course of its lifetime and may have also showed regional variation, it seems from archaeological and textual evidence that there was an attempt to reconstruct[89] or reform the state institutions during the reign of Rusa (III) son of Argišti. There is evidence from sites of this period which indicate a more centralised administrative system with the introduction of clay tablets, cylinder seals and *bullae* into the state bureaucracy as well as the construction of major centres such as Ayanis, Karmir-Blur, Kef Kalesi and Bastam with their massive storage facilities. However this suggestion should be treated with caution, especially as the clay documents may have survived or been recovered by chance. Therefore we should not rule out the discovery of administrative documents from earlier periods in future archaeological research. Hence, the conclusions presented here must be considered tentative.

Prior to these reforms, it can be seen that in the early expansionist period there is neither a centralised nor decentralised system was in place. The tradition of naming individual governors (Titia[90] and Zaia(ni))[91] was practised in display inscriptions of this early period. The reason for mentioning the provincial governors in the 8th century BC Urartian written sources might be a result of the fragile nature of the newly formed kingdom and the named individuals may have been appointed from among the leaders of powerful tribes for the political and socio-economic stability of the kingdom. The local leaders along with members of the royal family must have been appointed as provincial governors to ensure their loyalty to the kingdom. Not only local leaders but also the lower echelon of tribesmen would have been incorporated into the kingdom as in the case of Toprakkale (CT Tk-1 Ro) where it is mentioned that the 'warriors of the tribal militaria' were employed.[92]

However it can be argued that in the later period, after state institutions were established and in particular after the reforms of Rusa son of Argišti, the tradition of naming or mentioning individual governors likely ended. This argument is consistent with the construction of cultic structures and the creation of an official state pantheon that included a variety of local deities during the first phase of the kingdom that started from the end of the 9th century BC to 714 BC. A lesser known god, Haldi, was chosen as the supreme god and as the protector of the Urartian dynasty as well as to unify the disparate tribes or small polities

[89] Smith 1999c: 48-49.
[90] A 5-8 Ro line 18, A 5-8 Vo line 8.
[91] A 9-18.
[92] Diakonoff 1989: 99.

that existed in eastern Anatolia and north-west Iran. The construction of temples, in particular open-air shrines for the god Haldi in the Lake Van basin, during this early period shows a state policy of using religion as a unifying force. There were also efforts to build sacred structures for local deities such as the construction of the Irmušini[93] temple at Çavuştepe and Iubša[94] at Arinberd. The use of religion, in particular the cult of Haldi, by an emerging new dynasty seems to be the product of a conscious political agenda adopted by king Išpuini and his successors, since Urartian kings started life as 'first among the equals' within local rulers but slowly emerged as dominant political force, attaining and maintaining that status via the invented state cult of Haldi.

[93] A 9-17.
[94] A 8-21 A-B.

Table 31. Royal titles in Urartian inscriptions

King	Mighty King MAN DAN-NU	Great King MAN alsuini (GAL-ni)	King of lands (countries) MAN šurahe (KUR.KUR)	King of Biainili MAN [KUR] Biainiue	King of Kings Erilaue (MAN) MAN.MEŠ-úe	Lord of Tušpa Alusie Tušpa URU
Išpuini						
	A 2-6A-C; A 3-2; A 3-11	A 2-6A-C; A 3-2	A 2-6C; A 3-11	A 2-6A-C; A 3-2; A 3-11	-	A 3-2; A 3-11
Minua						
	A 5-2A-F; A 5-4; A 5-5; A 5-8 Ro-Vo; A 5-10; A 5-12A-C; A 5-16; A 5-17; A 5-20; A 5-22 Ro; A 5-24 Vo; A 5-26; A 5-32; A 5-33; A 5-35; A 5-36; A 5-39; A 5-40A-B; A 5-41A-B; A 5-51; A 5-52; A 5-57; A 5-58A-C; A 5-59A-D; A 5-61; A 5-67; A 5-73; A 5-74; A 5-75; A 5-77; A 5-78; A 5-81; A 5-82; A 5-83; A 5-84; A 5-85; A 5-94; A 5-96 Ro; A 5-97; B 5-9	A 5-2A-F; A 5-4; A 5-5; A 5-8 Ro-Vo; A 5-12A-C; A 5-16; A 5-17; A 5-20; A 5-22 Ro; A 5-24 Vo; A 5-33; A 5-35; A 5-39; A 5-40A-B; A 5-41A-B; A 5-51; A 5-52; A 5-57; A 5-58A-C; A 5-59A-D; A 5-61; A 5-74; A 5-75; A 5-77; A 5-78; A 5-82; A 5-83; A 5-84; A 5-85; A 5-94; A 5-96 Ro; A 5-97	A 5-24 Vo; A 5-51	A 5-2A-F; A 5-4; A 5-5; A 5-8 Ro-Vo; A 5-12A-C; A 5-16; A 5-17; A 5-20; A 5-22 Ro; A 5-24 Vo; A 5-26; A 5-32; A 5-33; A 5-35; A 5-36; A 5-39; A 5-40A-B; A 5-41A-B; A 5-51; A 5-52; A 5-57; A 5-58A-C; A 5-59A-D; A 5-61; A 5-67; A 5-73; A 5-74; A 5-75; A 5-77; A 5-78; A 5-81; A 5-82; A 5-83; A 5-84; A 5-85; A 5-94; A 5-97; B 5-9	A 5-51	A 5-2A-F; A 5-4; A 5-5; A 5-8 Ro-Vo; A 5-10; A 5-12A-C; A 5-16; A 5-17; A 5-20; A 5-22 Ro; A 5-24 Vo; A 5-26; A 5-32; A 5-32; A 5-35; A 5-36; A 5-39; A 5-40A-B; A 5-41A-B; A 5-51; A 5-52; A 5-57; A 5-58A-C; A 5-59A-D; A 5-61; A 5-67; A 5-73; A 5-74; A 5-75; A 5-77; A 5-78; A 5-81; A 5-82; A 5-83; A 5-84; A 5-85; A 5-94; A 5-97
Argišti I						

	A 8-1; A 8-3 II; A 8-6; A 8-7; A 8-8; A 8-11; A 8-13; A 8-15; A 8-16; A 8-17A-B; A 8-18; A 8-20; A 8-21A-B; A 8-22; A 8-35; A 8-36; A 8-38; B 8-1; B 8-2; B 8-3; B 8-4; B 8-5; B 8-6	A 8-1; A 8-3 II; A 8-8; A 8-16; A 8-20; A 8-21A-B; A 8-22; A 8-35; A 8-36; B 8-1; B 8-2; B 8-4; B 8-5; B 8-6	-	A 8-1; A 8-6; A 8-7; A 8-8; A 8-11; A 8-15; A 8-16; A 8-17A-B; A 8-18; A 8-20; A 8-21A-B; A 8-22; A 8-35; A 8-36; B 8-1; B 8-2; B 8-3; B 8-4; B 8-5; B 8-6	A 8-1	A 8-1; A 8-3 II; A 8-6; A 8-7; A 8-8; A 8-11; A 8-13; A 8-15; A 8-16; A 8-17A-B; A 8-18; A 8-20; A 8-21A-B; A 8-22; A 8-35; A 8-36; A 8-38; B 8-1; B 8-2; B 8-3; B 8-4; B 8-5; B 8-6
Sarduri II						
	A 9-1; A 9-3 VII; A 9-4; A 9-7; A 9-8; A 9-9; A 9-10; A 9-14; A 9-15; A 9-17; A 9-19; A 9-20; A 9-21; A 9-39; B 9-1; B 9-2; B 9-3	A 9-1 A 9-3 VII; A 9-4; A 9-7; A 9-8; A 9-9; A 9-10; A 9-14; A 9-15; A 9-17; A 9-21; B 9-3	A 9-1 A 9-3 VII; A 9-7; A 9-8; A 9-10; A 9-14; A 9-15; A 9-21	A 9-1 A 9-3 VII; A 9-4; A 9-8; A 9-9; A 9-10; A 9-14; A 9-15; A 9-17; A 9-19; A 9-20; A 9-21; B 9-1; B 9-2; B 9-3	A 9-1 A 9-3 VII; A 9-7; A 9-10; A 9-15;	A 9-1 A 9-3 VII; A 9-4; A 9-7; A 9-8; A 9-9; A 9-10; A 9-14; A 9-15; A 9-17; A 9-19; A 9-20; A 9-21; A 9-39; B 9-1; B 9-2; B 9-3
Rusa I						
	A 10-1; B 10-1	B 10-1	-	B 10-1	-	B 10-1
Rusa III						
	A 14-1Vo; B 14-1; B 14-2; B 14-3; B 14-4; B 14-5; B 14-6; B 14-7; B 14-8; B 14-9; B 14-11	-	-	A 14-1Vo	-	B 14-1; B 14-2; B 14-3; B 14-4; B 14-5; B 14-6; B 14-7; B 14-8; B 14-9; B 14-10; B 14-11
Argišti II						
	A 11-2; A 11-3Vo; A 11-4; ; A 11-8; A 11-8Ro; B 11-2; B 11-4	A 11-8; A 11-8Ro	A 11-4	A 11-2; A 11-3Vo; A 11-4; A 11-8; A 11-8Ro	A 11-4; A 11-8; A 11-8Ro	A 11-3Vo; A 11-4; A 11-8; A 11-8Ro; B 11-2; B 11-4

Rusa III						
	A 12-1 VII; A 12-4 II; A 12-7; A 12-8; A 12-9; B 12-1; B 12-2; B 12-4; B 12-5; B 12-8	A 12-1 VII; A 12-4 II; A 12-8; A 12-9; B 12-1; B 12-4	A 12-1 VII; A 12-4 II; A 12-7; A 12-8; B 12-1; B 12-4	A 12-1 VII; A 12-4 II; A 12-7; A 12-8; A 12-9; B 12-1; B 12-4	A 12-1 VII; A 12-4 II; A 12-7; A 12-8	A 12-1 VII; A 12-4 II; A 12-7; A 12-8; A 12-9; B 12-1; B 12-4; B 12-5; B 12-6; B 12-8
Sarduri III						
	B 16-1	B 16-1	-	-	-	B 16-1

Note: The titles are in the order that they appear in the inscriptions. The table is compiled from M. Salvini's corpus (CTU). Inscriptions written in Assyrian are excluded from the table.

Table 32. Exceptional Titles of Urartian Kings

King	**'^{LU}*sie muṣi* ^{LU}*UN*^{MES}*-úe'** **The true shepherd of the people**	**'Haldi ^{LU}ÍR' Slave of Haldi**	**'Šebitúi ^{LU}ÍR' Servant of Šebuti**	**'Aluše ^{KUR}biainili nulduali' The one who ruled the country of Biainili**
Rusa I				
	A 10-3 A; A 10-5	10-3Ro; A 10-5	A 10-6	A 10-1
Argišti II				
	A 11-2	A 11-2 Vo	-	-
Rusa II				
	-	A 14-1 Ro; A 14-2 Vo	-	-

GENERAL CONCLUSIONS

The present study aimed to investigate the socio-economic structure of the Urartian kingdom by looking into archaeological excavations, surveys, textual evidence from Urartian and Assyrian sources as well as ethnographic observations all within the context of the geographical setting of Urartu. While the textual evidence of Urartu and Assyria as well as archaeological evidence overwhelmingly suggests that the Urartian kingdom was formed by force in the Lake Van basin of eastern Anatolia during the early decades of the 9th century BC, the political, administrative and most importantly the economic structure of the Urartian kingdom as whole has generally been less well studied.

To address this gap in our understanding, this work first dealt with the procurement of economic resources and the movement of commodities covering a wide range of topics from arable agriculture, animal husbandry and metallurgy to trade and craft and then moved on to analyse Urartian economic and administrative structures, in other words to see how its economic resources were managed by the kingdom. By doing so, a 'bottom-up' approach was adopted, for example, in Part II in order to critically review the evidence for the animal husbandry I started with an examination of contemporary animal husbandry in eastern Anatolia and then moved on to deal with Urartian and Assyrian written sources. After analysing the role of animals in Urartian religion, I then assessed the faunal and other archaeological remains from Urartian sites. Similarly, in the case of metallurgy having reviewed the written sources for ore deposits of the Urartian territory, I moved on to assess to archaeological evidence with regard to metal workshops and then the nature of Urartian of metallurgy by examining the use of iron, bronze, silver and gold.

This study emphasised the importance of arable agriculture and animal husbandry in Urartian society and the effort made by the Urartians to maximise revenues in both of these. When dealing with both of these essential aspects of Urartian economy, the importance of the physical geography and climate of the region was highlighted and the limitations presented by landscape were emphasised. While it was argued that the Lake Van basin, Lake Urmia and Araxes Valley, especially the Ararat plain, were the most important arable agricultural regions, I have demonstrated that agricultural land around existing settlements may have become insufficient to feed the growing size of the population. This may have resulted in a need for new agricultural lands. This may perhaps have been the main reason behind the Urartian kings' engagement with water facilities and development of uncultivated land for

agricultural production, orchards and vineyards. Since emphases have been placed on the unification of different tribes and tribal confederations that made up the state of Urartu at the beginning of the 9th century BC, presumably, the state engaged in previously uncultivated areas, in order to avoid conflict with local populations and resettled deportees in these new areas.

Archaeological evidence from recent excavations, recently discovered inscriptions and ethnographic data were incorporated when analysing the role played by animal husbandry and the species that were bred by Urartian farmers as well as to gain an understanding of arable agriculture. The regions of northeast Anatolia, the Lake Sevan basin, some parts of the Lake Van and Urmia basins as well as other highland areas were identified as being the most important stockbreeding regions. As with arable agriculture, the limitations presented by physical geography and climate and their importance in terms of breeding specific species in particular regions was emphasised.

In regard to the trade activities of the kingdom, a comprehensive review of both archaeological and textual evidence as well as scholarly opinion was presented and I concluded that there may have been small-scale exchange activities between Urartian and other Near Eastern merchants, particularly in relation to acquiring tin and exotic materials.

I argued that metallurgical activities played a crucial role in the socio-economic development of the Urartian kingdom in terms of construction of citadels with large scale administrative and public building as well as water facilities and the clearance of new land for agricultural activities. Furthermore, I suggested that large quantities of iron and bronze were forged in the workshops that operated under the control of the state in various centres and also in rural areas which were operated either by independent, tribe or state-dependent metal workshops.

Urartian royal display inscriptions and administrative texts as well as relevant Assyrian records of royal inscriptions and diplomatic correspondence were utilised whenever appropriate evidence was available in order to examine the political, economic and administrative organisation of the kingdom. Although it was stated that there may have been changes over the course of its history as well as some regional variations, I concluded that there were two phases of socio-economic and political development in Urartu, namely, the early expansionist period when the kingdom expanded its boundaries by incorporated various small polities or kingdoms and tribes that may have exist in eastern Anatolia, Transcaucasia and northwest Iran. It was suggested that there may have been a more decentralized system in this early phase of the kingdom because of its inherently fragile nature and to avoid the

conflict within the newly formed kingdom. The second phase began during the reign of Rusa, son of Argišti, and I argued that there was then a more centralised administration system and the state was restructured and reformed as evidence by use of clay tablets, bullae and the construction of massive citadels.

One of the most important outcomes of this study has been to highlight the fact that it is not the Urartian rulers, but the physical geography and climate of eastern Anatolia, Caucasia and northwest Iran itself that was the real actor in shaping Urartian society. Therefore the decisions made by Urartian kings were influenced by the reality of the physical geography and climate of these regions. Investments in arable agriculture (such as irrigation) and animal husbandry (such as 'dew ponds'), the two crucial economic sectors of Urartian society, were dictated by environmental conditions. Hence we should see the Urartian dynasty as an agent, but one who complied with the conditions dictated by the physical geography and climate.

Of course, environmental conditions were not the only factor behind these investments by Urartian rulers. The constant threat of the Assyrian army was also an important instrument that brought about the construction of numerous citadels, in particular along Urartu's southern borders, and most importantly in the Lake Urmia basin. Although the Assyrian kingdom conducted numerous military campaigns into Urartian territory with increasing regularity, at no point did these military activities ever establish Assyrian control over the mountainous regions where the Urartian kingdom was based. The protection presented by eastern Anatolia's topography and climate perhaps effectively prevented the Assyrians from establishing permanent bases or incorporating this region into their kingdom.

I have also argued that not all of the investment in terms of the construction of irrigation facilities or small settlements was made by the state. Instead, there may have been other agents such as private, communal or tribal groups that were involved in the construction of such facilities. The assumption that all major water facilities and other irrigation works in the regions were all Urartian was also questioned and I argued that some of these facilities may have been built during the Late Bronze/Early Iron Age or later during the Byzantine and Ottoman periods. It was also argued that some of the water installations close to pastures in the upland areas may have been constructed for the purpose of watering large herds, not for arable.

The pillared hall with its massive *pithoi* located on the east side of the Ayanis temple complex was also reinterpreted and it is suggested here that it may have been reserved for the collection of water to be consumed within the citadel when needed rather than the more common suggested interpretation that is was part of the temple complex.

Furthermore, I evaluated the archaeological and textual evidence from the site of Toprakkale and suggested that the site may have been constructed as an alternative to the holy site of Mušašir, rather than used as the second capital of the kingdom from the reign of Rusa son of Erimena onward. The lack of archaeological remains from Toprakkale and the textual evidence of Sargon II before and after the attack on Mušašir as well as the bilingual inscriptions of Urartian king Rusa, son of Sarduri, and subsequently the uneasy relationship between Urartian king Rusa and Urzana, the king of Mušašir were presented in support of this conclusion.

This study also presented a critical review of the available archaeological and textual evidence and suggested alternatives for various issues ranging from the co-regency of Išpuini and his son Minua, to the reign of Rusa son of Erimena. I have presented a new chronology of Urartian kings, and evaluated the so-called co-regency of Išpuini and his son Minua and the position of king Rusa, son of Erimena. With regards to this putative co-regency I argued that royal titles in relevant inscriptions were never applied to Minua and the textual evidence indicates that he was designated well in advance as an heir to the throne in order to prevent any conflict that may arise over the succession to the Urartian throne. In terms of chronology, the reign of Rusa son of Erimena was placed between Rusa son of Sarduri and Argišti son of Rusa (see Appendix). By suggesting Išpuini and his son Minua ruled separately as opposed to the general view held by Urartian scholars and by re-dating Rusa son of Erimena's reign after the reign of Rusa son of Sarduri and the events before and after the defeat of Urartu at the hand of Assyrian king Sargon II in 714 BC a new chronology of Urartian kings was presented.

Urartian royal display inscriptions and administrative texts as well as relevant Assyrian records of royal inscriptions and diplomatic correspondence were utilised whenever appropriate evidence was available in order to examine the political, economic and administrative organisation of the kingdom. Although it was stated that there may have been changes over the course of its history as well as some regional variations, I concluded that there were two key phases of socio-economic and political development in Urartu, namely, the early expansionist period and a later centralised period. During the earlier period, the kingdom expanded its boundaries by presumably incorporating the various small polities, kingdoms or tribes that existed in eastern Anatolia, Transcaucasia and northwest Iran at that time. I suggested that the Urartian state was neither centralised nor decentralised in this early phase. The state involvement in economic production during this early period shows variations depending on location and the type of production (arable agriculture, animal

husbandry, metallurgy). On the one hand textual evidence from the Lake Van basin and Ararat Plain indicates the monarch's efforts to improve the land and mentions the building of new citadels and cities which show the state's involvement in this region. On the other hand there is no evidence of state investment from certain regions that was incorporated by the state, such as the Elazığ Plain. It is only during this earlier period that royal inscriptions mention the provincial governors which might suggest that these individuals were appointed from among the leaders of powerful tribes, perhaps because of the inherently fragile nature of the kingdom and also to avoid conflict within the newly formed kingdom. In terms of economic production there is substantial evidence to suggest that the monarch was directly involved in metallurgical activities and, to a lesser degree, in arable agriculture in certain regions (i.e. the Lake Van basin), but there is less evidence about animal husbandry.

The second phase began during the reign of Rusa, son of Argišti, and I argued that the evidence supports the idea that there were attempts to exercise more royal authority in terms of decision making and production suggest and that there was a more centralised administration system in operation in this period. The use of clay tablets, bullae and the construction of massive citadels during this later phase suggest that the state had been restructured and reformed. However, this later evidence comes exclusively from the reign of Rusa, son of Argišti, and we do not know if his efforts to exercise more authority by centralising both decision making and production were then subsequently continued by his successors. The evidence from this later period shows that, to a certain degree, there was a central authority, an idea that had been strongly for argued by Soviet scholars and subsequently favoured by Turkish archaeologists, but also that not all agricultural land was under the control of the state or the monarch. In fact, these two different phases of socio-economic and political development in Urartu show that the political economy of the Urartian state both changed over time and showed regional variations.

Overall, it has been demonstrated in this study that the evidence for material culture from Urartu is mostly restricted to the ruling elite and in most cases restricted to the royal family or monarch in particular. Moreover the majority of archaeological material as well as textual evidence studied in this work dated predominantly to the final period of the kingdom, namely to the mid 7th century BC –to the reign of Rusa son of Argišti, with exception of some buildings and objects dated by inscriptions to the 8th century BC. Therefore, given the present state of the evidence, any observations or conclusions must be considered tentative, provisional and I reiterate that they are intended to broaden, rather than restrict, our understanding of Urartian socio-economic organisation.

APPENDIX

The Kingship of Rusa son of Erimena and Rusa son of Argišti

The chronology of Urartian kings, in particular the position of king Rusa, son of Erimena, and Rusa son of Argišti has been widely discussed.[1] Although there are no complete king lists in Urartian inscriptions that we can rely on for the chronology of the Urartian kings, we can trace the chronology of the rulers for nearly 200 years because each king also named his father in an uninterrupted line from Sarduri, son of Lutibri, to Rusa I, son of Sarduri II. However, after the mid-7th century BC, the textual evidence for the orderly succession from father to son as well as precise dating and the relative order of each individual king's reigns are hard to confirm or disprove.

For example, in the Assyrian sources Sargon II's there are two accounts of the death of the Urartian king. In the first account Sargon mentions how the Urartian king Rusa committed suicide at the end of his military campaign, or became ill after his defeat and died in 714 BC.[2] Other sources from the same period also mention a revolt in Urartu and the killing of a king outside the city of Waisi (Uasi) by his nobles (SAA V 93). Although there is the possibility of both accounts having been intended to refer to the death of the same king, it is also possible that these sources may have referred to two different kings. If so, then it is highly likely that the former may have been Ursa, the opponent of Sargon in 714 BC and the later account may have been recorded at a later date and therefore refers to a different individual. However there is no certainty about the identity of the king murdered by his nobles. This might have happened after Sargon's eighth campaign, or following the Cimmerians' defeat, or even another time entirely. Therefore there is no clear indication whether it was Rusa son of Sarduri or Rusa son of Erimena that was killed.

It is generally accepted that Rusa I, son of Sarduri II[3], was the opponent of Sargon II during his eighth campaign and if Sargon II's account of how Urartian king Rusa died is to be believed in 714/713 BC[4] and the same annals also in the following year (713/712 BC)[5] record that '*Ambaris of Tabal …who did not keep faith, sent to Ursa, king of Urartu and Mita king of Mushki*' messengers proposing an alliance against Sargon (ARAB II 25, 55 and 117). The

[1] Salvini 2012b: 111-134; Seidl 2012: 177-181; Kroll 2012: 183-186; Hellwag 2012: 227-241; Fuchs 2012: 135-161.
[2] ARAB II 22 and 175.
[3] An alternative suggestion is made by Roaf, who argues that the opponent of Sargon's may have been Rusa son of Erimena (Roaf 2012: 213-216).
[4] ARAB II 22 and 175.
[5] See Fuch (2012: 136-137) for the dating of this event.

description of the death of Rusa was dated to Sargon's eighth year and also mentioned in a cylinder inscription found in Khorsabad which was written in 713 BC (ARAB II 118). There is a contradiction between these two accounts in the same annals: on the one hand it is stated that Ursa committed suicide in 714/713 BC and on the other hand in the following year the proposed alliance is recorded. There can be only three explanations: Ambaris did not know that Ursa was already dead when he proposed an alliance; this proposed alliance took place at an earlier date but was recorded in the same annals because of its relevance to Sargon's removal of Ambaris in the same year; or the Ursa who received messengers from Ambaris and the Ursa who committed suicide were not the same king. Although it is unlikely that Ambaris would have written to a king who had already been defeated by Sargon in the previous year, it is possible that there may have been two Urartian kings called Rusa whose reigns were not far from one another. If the Assyrian sources refer to the deaths of two different kings and the two different individuals were called Rusa, there is a gap of 4 to 5 years between the next dated Assyrian synchronism which names a king called Argišti in 709 BC.[6] The only Argišti known from Urartian sources is Argišti, son of Rusa. It is mentioned that Argišti was an ally of Mutallum, the king of Kummuhu (Qumaha)[7] who pursued an expansionist policy towards the east and north-east and left the easternmost documents at Razliq (A 11-4) and Nashteban (A 11-5) in the eastern Azerbaijan region of Iran. It is possible that the second Rusa who was an ally of Ambaris, the king of Bit Puritiš in 713 BC (ARAB II 25) was Rusa son of Erimena or Rusa, son of Argišti.

Let us now consider the textual and archaeological evidence, in particular the site of Toprakkale and the recent discovery of the Gövelek inscription, 25 km east of Toprakkale[8], which are crucial to question of who succeeded Rusa, son of Sarduri. Rusa son of Argišti was mentioned on a clay tablet (CT Tk-1 Ro / UPD 12) and on seal impressions of bullae (Sig. 12-1, 2 and 3) as well as on an undecorated bronze shield fragment (B 12-8) and a candelabrum (B 12-8). Whereas Rusa son of Erimena was named on inscriptions of bronze artefacts (B 14-1-11) which suggest that Toprakkale was used during the reign of both kings.

Prior to the recent discovery of the Gövelek inscription, it was generally accepted[9] that Rusa, son of Argišti, constructed the reservoir mentioned in the Keşiş Göl inscription the so-called -'Lake Rusa'. However, the Gövelek inscription proves that it was in fact Rusa son of

[6] Salvini 2006: 110-111; Fuchs 2012: 137.
[7] ARAB II 64.
[8] Salvini 2002b: 115-143.
[9] Burney 1972a: 183; Garbrecht 1980: 310-311, 1988: 191-197; Öğün 1970: 24-27.

Erimena who constructed the irrigation works at Keşiş Göl. Both the Keşiş Göl[10] and the Gövelek inscriptions state that previously there had been no canal and that Rusa son of Erimena established the Rusaḫinili. It should be noted that in these inscriptions of Rusa son of Erimena Rusaḫinili is mentioned without ^{KUR}Qilbani=kai, whereas in Rusa son of Argišti inscriptions a distinction is made between Rusaḫinili ^{KUR}Qilbani=kai (Toprakkale) and Rusaḫinili ^{KUR}Eiduru-kai (Ayanis). Rusaḫinili ^{KUR}Qilbani=kai is mentioned in two clay tablets: the first is in Toprakkale tablet of CT Tk-1 Ro / UPD 12 (see III.5.5.2) and the second is a bullae from Bastam CB Ba 78-146 (see III.5.5.2 note 61 for this text).

It is reasonable to assume that after the construction of the second Rusaḫinili it might have become necessary to distinguish one from the other by adding additional qualifications to both sites. Therefore it is clear that Toprakkale was older than Ayanis.

Apart from these inscriptions (A 14-1, A 14-2 and A 14-3) which were closely associated with the site of Toprakkale, there are two more inscriptions of Rusa son of Erimena: one from Armavir (A 14-5) and another from Arinberd (A 14-6) that mention the construction of grain stores. These inscriptions are not detailed enough to give information about the period and succession of these kings. However, unlike at Toprakkale, no inscriptions of Rusa son of Erimena have been recovered from those fortresses that were founded by Rusa son of Argišti.[11]

The study by Ursula Seidl on the iconographic and stylistic features of lions and bulls on votive shields of Rusa son of Erimena from Toprakkale and those on the shield of Rusa son of Argišti from Ayanis has shown that there are many differences between them. The former were depicted in a very similar way to 8th century or the beginning of the 7th century BC examples, in particular the depiction of short bodies, tufts of hairs on the mane with the belly and the raised tails of lions are similar to the earlier examples such as Argišti son of Minua, Sarduri son of Argišti.[12] Whereas, the manes and the tufts of hairs along the belly as well as the tails of hanging down in Rusa son of Argišti lions were stand in contrast to earlier ones. As with lions, her study of bulls also confirms an earlier dating for Rusa son of Erimena (Figure 79).[13] The king titles of Rusa son of Erimena also show the continuation of 8th century BC tradition by referring to the ‘mighty king’ and ‘lord of Tušpa’ (see Table 31).

[10] A 14-1 / UKN 268.
[11] Seidl 2012: 179.
[12] Seidl 2004: 123, Abb. 94.
[13] See for detail Seidl (2012) and Roaf (2012: 197-198).

On the other hand the dendrochronological evidence from the Ayanis temple courtyard suggests that the site had been built around 675-673 +4/-7 BC[14], which is known to have been built by Rusa[15] (along with other sites such as Karmir-Blur, Bastam and Kef Kalesi), son of Argišti, a contemporary of the Assyrian kings Sennacherib and Esarhaddon. Although there is no reference to Urartu during the reign of Assyrian king Sennacherib, Esarhaddon mentioned an Urartian king called Rusa in relation to his expedition against Šubria[16] in 673 BC.[17] Assyrian sources mention that in 653[18] BC an ambassador of an Urartian king called Rusa was also received by Ashurbanipal in Arbela to join the celebrations of his Elam expedition.[19]

Although we do not know when the reign of Argišti II, son of Rusa ended, the Assyrian sources mentions a Rusa in 673 and 653 BC, and the dendrochronological evidence from Ayanis also show a similar date range, and therefore we may conclude that the Rusa mentioned during this period was the Rusa, son of Argišti. Whereas it is generally accepted that Erimena[20], the father of Rusa, never sat on the Urartian throne, it is known from the Gövelek inscription and others[21] that his son Rusa ruled Urartu and left several inscriptions like other Urartian kings. In the light of textual and archaeological evidence it seems that the reign of Rusa son of Erimena can be placed between Rusa son of Sarduri and Argišti son of Rusa as is suggested by Seidl.[22] If indeed Rusa son of Erimena ruled after Rusa son of Sarduri, we may place the presumed revolt and killing of a king mentioned in this period, in which Erimena and his son Rusa may have been the leaders of the revolt who then seized the throne in the aftermath of Rusa, son of Sarduri's death. Further evidence in regard to events of this period may be found in Sargon II's 'Letter to the God Assur', where two different noble families were mentioned, one in the city of Arbu being 'the father's house of Ursa' (Rusa) and the other in Riar as 'the city of Ishtarduri' (Sarduri).[23] However, whether projects likes Toprakkale and the reservoir mentioned in the Keşiş Göl inscription could have been accomplished in such a short period of time is not clear.

[14] The dendrochronological dating from Ayanis was first given a date range between 655-651 BC (Kuniholm and Newton 2001: 377-380) and later revised by Newton and Kuniholm (2007: 195-206).
[15] A 12-1, A 12-9.
[16] Leichty 2011: 85 no 33.
[17] After the conquest of Šubria, Esarhaddon returned all Urartian refugees to Rusa, which indicates that there might have been good relationship between Urartu and Assyria (Leichty 2011: 85 no 33 lines 29-34).
[18] See for the dating Fuchs (2012: 137).
[19] ARAB II 871 and 1035.
[20] Kroll (1984:163) argues that Erimena was the son of Argišti and the brother of Rusa, who succeeded his father and the founder of Bastam, Karmir-Blur, Ayanis and Kef Kalesi.
[21] A 14-2, A 14-3, A 14-4, A14-5 and A14-6.
[22] Seidl 2012: 177-181.
[23] ARAB II 165.

It seems Rusa son of Erimena ruled between 713 and 709 since Argišti, son of Rusa was named in Assyrian sources as the Urartian king in 709 BC. Therefore Rusa son of Erimena should be called Rusa II and Rusa son of Argišti should be Rusa III.[24] We do not know when Argišti, son of Rusa's reign ended or when Rusa son of Argišti begin to rule. Also the absence of any Argišti inscription from Toprakkale, if indeed the site was the capital of the kingdom from the reign of Rusa son of Erimena onwards, is noteworthy.

There is no evidence to suggest when the reign of Rusa son of Argišti ended even though his name appears in Assyrian sources in 653 BC during the reign of Ashurbanipal who received an Urartian ambassador after his successful Elam expedition. Ten years went by until the new Urartian name appears in Assyrian sources as Sarduri, which was transcribed as Ishtar-dûri in 643 BC. Sarduri, like Rusa, sent ambassadors to Ashurbanipal after his success against Elam[25] as is stated in the Rassam cylinder: '*Ishtar-dûri, king of Urartu, whose royal fathers had addressed (messages of) brotherhood to my fathers*' (ARAB II 834). However unlike earlier Assyrian texts, this time it is stated that king of Urartu sent tribute to Assurbanipal, which presents the Urartian kingdom as a vassal of the Assyrians. The mention of 'whose royal fathers' may also be taken to indicate that Sarduri was the son of Rusa, whose name also appears on clay tablets with title of ^{LÚ}*a-ṣu-li*[26], as is also clear from Urartian inscriptions that the throne was always handed from father to son.

There are is no further Assyrian synchronisms after Assurbanipal's references to Sarduri, but a fragmented shield of Sarduri, son of Sarduri, from Karmir-Blur (B 16-1) who also known from clay tablets and sealings with title of ^{LÚ}*a-ṣu-li*[27] is known to ruled as a sovereign king.

[24] In the proceedings of the *Biainili-Urartu* symposium in Munich the possible kingship of Erimena and his son Rusa were discussed by Salvini (2012b: 111-134), who accepted the traditional dating in which Rusa son of Argišti ruled before Erimena and his son, also called Rusa; while Seidl (2012: 177-181) argued that Rusa son of Erimena should be dated earlier than Argišti son of Rusa and therefore suggested that he ruled between Rusa son of Sarduri and Argišti son of Rusa. Kroll (2012: 183-186) and Hellwag (2012: 227-241) suggested that Rusa son of Erimena was earlier than Rusa son of Argišti and Fuchs (2012: 135-161) argued that Rusa son of Erimena ruled between Argišti son of Rusa and Rusa son of Argišti.
[25] ARAB II 834.
[26] CT Ba-1, CT Ba-2 and CT Kb-1.
[27] CT Ba-3 and CT Kb-5.

Urartian Kings and Chronology*

Urartian King	**Synchronism**	**Assyrian King**
Arramu	859/856-844	Shalmaneser III (859-824)
Sarduri, son of Lutipri (*c*. 840-830)	830	Shalmaneser III
Išpuini, son of Sarduri (830-810)	820	Šamši-Adad V (823-811)
Minua, son of Išpuini (810-785/780)		
Argišti I, son of Minua (785/780-756)	774	Shalmaneser IV (782-745)
Sarduri II, son of Argišti I (756-730)		Assur-Ninari V (754-755)
	743, 735?	Tiglath-Pileser III (744-727)
Rusa I, son of Sarduri II (730-713)	719-714 (Ursā)	Sargon II (721-705)
Rusa II, son of Erimena	713?	
Argišti II, son of Rusa	709	
		Sennacherib (704-681)
Rusa III, son of Argišti	672 (Ursā)	Esarhaddon (681-669)
	652	Assurbanipal (668-627)
Sarduri, son of Rusa (III) [^{LU}*a-ṣu-li* (?)]		
Sarduri III, son of Sarduri	646-642 Issar/Ištar-dūrī	Assurbanipal

*The name of the Urartian king with their father's name and approximate dates were adopted from Salvini (2008) *Corpus dei Testi Urartei* and the synchronism with Assyrian dating is based on Grayson (1991, 1996), Grayson and Novotny (2012), Grayson and Yamada (2011), Fuchs (1994), Leichty (2011) and Luckenbill (1989).

BIBLIOGRAPHY

Abay, E. 2001 “Seals and Sealings” in Çilingiroğlu, A and Salvini, M. (eds.) 2001: 321-353.

Adontz, N. 1946 *Histoire d'Arménie. Les origines du X siècle au VF (A v. J. C).* Paris, Fonds Melkonian.

Adovasio, J. M. 1975 “The Textile and Basketry Impressions from Jarmo” *Paléorient* 3: 223-230.

Akurgal, E. 1961 *Die Kunst Anatoliens von Homer bis Alexander*. Berlin, Walter de Gruyter.

Akurgal, E. 1968 *Urartäische und altiranische Kunstzentren*. Ankara, Türk Tarih Kurumu.

Akurgal, E. and Budde, L. 1956 *Vorläufiger Bericht über die Ausgrabungen in Sinope*. Ankara, Türk Tarih Kurumu.

Amandry, P. 1956 “Chaudrons à protomes de taureau en Orient et en Grèce” *The Aegean and the Near East: Studies Presented to Hetty Goldman on the Occasion of Her Seventy-Fifth Birthday.* (ed.) S. S. Weinberg. J.J. Augustin-Locust Valley: 239-261.

Arınç, K. 2011 *Doğal, İktisadi, Sosyal ve Siyasal Yönleriyle Türkiye’nin İç Bölgeleri*. Erzurum, Biyosfer Araştırma Merkezi Coğrafya Araştırma Serisi No 101.

Atakuman, Ç. 2008 “Cradle or crucible Anatolia and archaeology in the early years of the Turkish Republic (1923-1938)” *Journal of Social Archaeology* 8/2: 214-235.

Atalay, İ. and Mortan, K. 1997 *Türkiye Bölgesel Coğrafyası*. İstanbul, İnkılab Yayınevi.

Atıcı, L. 2005 “Centralized or decentralized: the mode of pastoral economy at Early Bronze Age Kaman Kalehöyük” *Anatolian Archaeological Studies* 14: 119-127.

Ayvazian, A. 2006 *Urartian Glyptic: New Perspectives*. Unpublished PhD, University of California.

Azarpay, G. 1968 *Urartian Art and Artifacts: A Chronological Study*. Berkeley & Los Angeles, University of California Press.

Babayan, A., S. Hakobyan, K. Jenderedjian, S. Muradyan and M. Voskanov 2006 “Lake Sevan: Experience and Lessons Learned Brief” *Towards a Lake Basin Management Initiative*

and a Contribution to the Third World Water Forum: Sharing Experiences and Early Lessons in GEF and non-GEF Lake Basin Management Projects: Experience notes and Lessons Learned: 347-362.

Avetisyan, P. and Bobokhyan, A. 2012 "The pottery traditions in Armenia from the eighth to the seventh centuries BC" in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 373-378

Badaljan, R. S., C. Edens, Philip L. Kohl, and Armen V. Tonikjan 1992 "Archaeological Investigations at Horom in the Shirak Plain of Northwestern Armenia, 1990" *Iran* 30: 31-48.

Badaljan, R. S., C. Edens, Ronald Gorny, Philip L. Kohl, David Stronach, Armen V. Tonikjan, S. Hamayakjan, S. Mandrikjan and M. Zardarjan 1993 "Preliminary Report on the 1992 Excavations at Horom, Armenia" *Iran* 31: 1-24

Badalyan, R. S. and Avetisyan, P. S. 2007 *Bronze and Early Iron Age Archaeological Sites in Armenia I. Mt. Aragats and its Surrounding Region*. Oxford, BAR International Series 1697.

Bahşaliyev, V. 1997 *Nahçıvan Arkeolojisi -The Archaeology of Nakhichevan*. İstanbul, Arkeoloji ve Sanat Yayınları.

Balkan, K. 1960 "Patnos Yakınında Anzavurtepe'de Bulunan Urartu Tapınağı ve Kitabeleri" *Anatolia* V: 133-158.

Balkan, K. 1964 "Patnos'ta Keşfedilen Urartu Tapınağı ve Urartu Sarayı" *Atatürk Konferansları* I: 235-243.

Başaran, S. 1989 "Çavuştepe Madencilik Atölyesi" *Festschrift für Jale İnan -Jale İnan Armağanı*. (eds.) N. Başgelen and M. Luga. İstanbul, Arkeoloji ve Sanat Yayınları: 443-448.

Barnett, R. D. 1950 "The Excavations of the British Museum at Toprak Kale near Van" *Iraq* 12/1: 1-43.

Barnett, R. D. 1954 "The Excavations of the British Museum at Toprak Kale, near Van: Addenda" *Iraq* 16/1: 3-22.

Barnett, R. D. 1956 "Ancient Oriental Influences on Archaic Greece" *The Aegean and the Near East: Studies Presented to Hetty Goldman on the Occasion of Her Seventy-Fifth Birthday*. (ed.) S. S. Weinberg. J.J. Augustin-Locust Vallay: 212-238.

Barnett, R. D. 1959 “Further Russian Excavations in Armenia (1949-1953)” *Iraq* 21: 1-19.

Barnett, R. D. 1963 “The Urartian Cemetery at Igdyr” *AnSt* 13: 153-198.

Barnett, R. D. 1972 “More addenda from Toprak Kale” *AnSt* 22: 163-178.

Barnett, R. D. 1982 “Urartu” *The Cambridge Ancient History*, Cambridge, Cambridge University Press 3: 314-371.

Barnett, R. D. and Davies, L. Glynne 1975 *A catalogue of the Nimrud Ivories. With other examples of Ancient Near Eastern Ivories in the British Museum*. London: The British Museum.

Barnett, R. D. and Gökce, N. 1953 “The find of Urartian bronzes at Altin Tepe, near Erzincan” *AnSt* 3: 121-129.

Barnett, R. D. and Watson, W. 1952 “Russian Excavations in Armenia” *Iraq* 14/2: 132-147.

Bedigian, D. and Harlan, J. 1986 “Evidence for cultivation of sesame in the ancient world” *Economic Botany* 40/2: 137-154.

Belck, W. 1904 “Die Steleninschrift Rusas' II Argistihinis von Etschmiadzin” *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 58: 161-197.

Belli, O. 1978 “Urartu Sanatının Sosyo-Ekonomik Açıdan Eleştirisi Üzerine Bir Deneme” *AnAr* VI: 45-95.

Belli, O. 1982 “Urartular” *Anadolu Uygarlıkları Ansiklopedisi I*. İstanbul, Görsel Yayınlar: 139-208.

Belli, O. 1987 “Demir Çağ’da Doğu Anadolu Bölgesi’nde demir metalurjisi” *Anadolu Demir Çağları*, (ed.) A. Çilingiroğlu, İzmir: 89-107.

Belli, O. 1989 “Urartu kalelerindeki anıtsal kaya işaretleri” *AnAr* 11: 65-121.

Belli, O. 1991a “Ore Deposits and Mining in Eastern Anatolia in the Urartian Period: Silver, Copper and Iron” in Merhav, R. (ed.) 1991a: 16-41.

Belli, O. 1991b “Inscribed Urartian metal objects” in Merhav, R. (ed.) 1991a: 44-49.

Belli, O. 1994a “Urartian dams and artificial lakes in Eastern Anatolia” *Anatolian Iron Ages 3, The Proceedings of the Third Anatolian Iron Ages Colloquium held at Van, 6-12 August 1990*. (eds.) A. Çilingiroğlu and D. H. French. Ankara, British Institute of Archaeology at Ankara: 9-29.

Belli, O. 1994b “Urartian Dams and Artificial Lakes Recently Discovered in Eastern Anatolia” *Tel Aviv* 21/1: 77-116.

Belli, O. 1996 “1995 Yılı Aşağı ve Yukarı Anzaf Urartu Kaleleri Kazısı” *KST* 18/1: 379-409.

Belli, O. 1997 *Doğu Anadolu'da Urartu Sulama Kanalları -Urartian Irrigation Canals in Eastern Anatolia*. İstanbul, Arkeoloji ve Sanat Yayınları.

Belli, O. 1999a *The Anzaf Fortresses and the Gods of Urartu*. İstanbul, Arkeoloji ve Sanat Yayınları.

Belli, O. 1999b “Dams, reservoirs and irrigation channels of the Van Plain in the period of the Urartian Kingdom” *AnSt* 49: 11-26.

Belli, O. 2001a “The Greatest Metalworking Kingdom of the ancient world: Urartu” *İstanbul University's Contributions to Archaeology in Turkey (1932-2000)*. (ed.) O. Belli. İstanbul, University of İstanbul: 338-346.

Belli, O. 2001b “The World's Greatest Hydraulics Engineers: the Urartian” *İstanbul University's Contributions to Archaeology in Turkey (1932-2000)*. (ed.) O. Belli, İstanbul, University of İstanbul: 358-364.

Belli, O. 2004 “Bronze quivers with cuneiform inscriptions from Van-Upper Anzaf Fortress” *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*. Ancient Near Eastern Studies 12, (ed.) A. Sagona. Leuven, Peeters: 277-298.

Belli, O. 2007 “Doğu Anadolu Bölgesi’nin en eski ve özgün mutfağı: Van-Yoncatepe saray mutfağı” *Belkıs Dinçol ve Ali Dinçol’a Armağan. VITA Festschrift in Honor of Belkıs Dinçol and Ali Dinçol*. (ed.) M. Alparslan, M. Doğan-Alparslan and H. Peker. İstanbul, Ege Yayınları: 69-86.

Belli, O. 2008 “2007 Yılında Doğu Anadolu Bölgesi’nde Urartu Baraj, Gölet ve Sulama Kanallarının Araştırılması” *AST* 26/1: 307-312.

Belli, O. and Dinçol, A. M. 1980 “Hazine Piri Kapısı ve Aşağı Zivistan taş ocakları” *AnAr* 8: 167-190.

Belli, O. and Konyar, E. 2001a “Excavations of Van-Yoncatepe Fortress and Necropolis (1997-1999)” *İstanbul University's Contributions to Archaeology in Turkey (1932-2000).* (ed.) O. Belli. İstanbul, University of İstanbul: 150-156.

Belli, O. and Konyar, E. 2001b “Excavations at Van-Yoncatepe Fortress and Necropolis” *Tel Aviv* 28/2: 169-212.

Belli, O. and Konyar, E. 2003 *Doğu Anadolu’da Erken Demir Çağı Kale ve Nekropolleri-Early Iron Age Fortresses and Necropolises in Eastern Anatolia*. İstanbul, Arkeoloji ve Sanat Yayınları.

Belli, O. and Salvini, M. 2003 “Two Clay Documents from Upper Anzaf Fortress near Van” *SMEA* XLV/2: 141-152.

Belli, O. and Salvini, M. 2006 “Pithoi with cuneiform and hieroglyphic inscriptions from Upper Anzaf Fortress” *SMEA* XLVIII: 55-72.

Belli, O. and Sevin, V. 1999 *Nahçıvan'da Arkeolojik Araştırmalar -Archeological Survey in Nakhichevan 1998*. İstanbul, Arkeoloji ve Sanat Yayınları.

Belli, O. and Yalçın, Ü. 1993 “Van-Yukarı Anzaf Urartu Kalesinde bulunan bronz ve demir silahların arkeometalurjik incelenmesi” *Arkeometri Sonuçları Toplantısı* 9: 53-64.

Bellinger, L. 1962 “Textiles from Gordion” *Bulletin of the Needle and Bobbin Club* 46/1-2: 5-33.

Benedict, W. C. 1961 “The Urartian-Assyrian inscription of Kelishin” *Journal of the American Oriental Society* 81: 359-385.

Berchovskaja, A. S. 1955 “Tekstil'nye izdelija iz raskopok Karmir-Blura” *Karmir Blur III* in B. B. Piotrovsky, Erevan: 67-71.

Bier, C. 1995 “Textile Arts in Ancient Western Asia” *Civilizations of the Ancient Near East*. (ed.) J. M. Sasson. New York, Charles Scribner’s Sons III: 1567-1588.

Biga, M. G. 2010 “Textiles in the administrative texts of the royal archives of Ebla (Syria, 24th century BC) with particular emphasis on coloured textiles” *Textile Terminologies in the*

Ancient Near East and Mediterranean from the Third to the First Millennia BC. (eds.) C. Michel and M. L. Nosch. Oxford, Oxbow: 146-172.

Bilgiç, E. and Öğün, B. 1964 "1964 Adilcevaz Kef Kalesi Kazıları -Excavations at Kef Kalesi of Adilcevaz, 1964" *Anatolia* 8: 65-120.

Bilgiç, E. and Öğün, B. 1965 "Second Season of excavation at Kef Kalesi of Adilcevaz" *Anatolia* 9: 1-20.

Birmingham, J. M. 1961 "The Overland Route across Anatolia in the Eighth and Seventh Centuries BC" *AnSt* 11: 185-195.

Biscione, R. 2003 "Pre-Urartian and Urartian Settlement Patterns in the Caucasus, two case studies: The Urmia Plain, Iran, and the Sevan Basin, Armenia" *Archaeology in the Borderlands: Investigations in Caucasia and Beyond*. (eds.) A. T. Smith and K. S. Rubinson. Los Angeles, Cotsen Institute of Archaeology: 167-183.

Biscione, R., S. Hmayakyan, and Neda Parmegiani (eds.) 2002 *The North-Eastern Frontier Urartians and Non-Urartians in the Sevan Lake Basin, 1, The Southern Shores*. Documenta Asiana 7, Rome: CNR.

Biscione, R., S. Hmayakyan and N. Parmegiani 2002 "The Armenian-Italian Archaeolgical Survey in the Sevan Lake Basin, Campaigns 1994-2000" in Biscione, R., S. Hmayakyan, and Neda Parmegiani (eds.) 2002: 9-18.

Blackman, D. R. 1978 "The Volume of Water Delivered by the Four Great Aqueducts of Rome" *Papers of the British School at Rome* 46: 52-72.

Boardman, J. 1990 "Al Mina and History" *Oxford Journal of Archaeology* 9/2: 169-190.

Boardman, J. 1999 *The Greeks Overseas: Their Early Colonies and Trade*. London, Thames & Hudson.

Boehmer, R. M. 1973 "Zur Lage von Muşaşir" *Baghdader Mitteilungen* 6: 31-40.

Boessneck, J. and Driesch, A. von den 1974 "The Excavations at Korucutepe, Turkey, 1968-1970: Preliminary Report. Part IX: The Animal Remains" *JNES* 33/1: 109-112.

Boessneck, J. and Kokabi, M. 1988 "Tierknochenfunde" in Kleiss, W. (ed.) 1988: 175-262.

Boessneck, J. and Krauss, M. 1973 “Die Tierwelt um Bastam/Nordwest-Azerbaidjan” *AMI* 6: 113-133.

Bono, P. and Boni, C. 1996 “Water supply of Rome in antiquity and today” *Environmental Geology* 27/2: 126-134.

Botta, P. E. and Flandin, M. E. 1849 *Monument de Ninive découvert et décrit par M.P.E.* Botta; mesuré et dessiné par M.E. Flandin. Paris, Imprimerie Nationale.

Boysal, Y. 1961 “Anzavur'da Definecilerin Meydana Çıkardığı Urartu Eserleri” *Belleten* 25: 199-212.

Brant, J. 1836 “Journey through a Part of Armenia and Asia Minor, in the Year 1835” *Journal of the Royal Geographical Society of London* 6: 187-223.

Brant, J. and Glascott, A. G. 1840 “Notes of a Journey Through a Part of Kurdistan, in the Summer of 1838” *Journal of the Royal Geographical Society of London* 10: 341-434.

Brashinsky J. B. 1978 “Urartian Pithoi: A Study in Metrology and Standardization” *Orientalia Lovaniensia Periodica Leuven* 9: 33-49.

Brinkman, J. A. 1968 *A Political History of Post-Kassite Babylonia 1158-722 BC*. Roma, Pontificio Istituto Biblico.

Burney, C. A. 1957 “Urartian Fortresses and Towns in the Van Region” *AnSt* 7: 37-53.

Burney, C. A. 1966 “A First Season of Excavations on the Urartian Citadel of Kayalıdere” *AnSt* 16: 55-111.

Burney, C. 1970 “Excavations at Haftavān Tepe 1968: First Preliminary Report” *Iran* 8: 157-171.

Burney, C. 1972a “Urartian Irrigation Works” *AnSt* 22: 179-186.

Burney, C. 1972b “Excavations at Haftavān Tepe 1969: Second Preliminary Report” *Iran* 10: 127-142.

Burney, C. 1996 “The Highland Sheep are Sweeter” *Cultural interaction in the ancient Near East: papers read at a symposium held at the University of Melbourne, Department of Classics and Archaeology (29-30 September 1994)*. (ed.) G. Bunnens. Louvain, Peeters: 1-16.

Burney, C. and Lang, D. M. 1971 *The peoples of the hills: ancient Ararat and Caucasus*. London, Weidenfeld-Nicolson.

Burney, C. A. and Lawson, G. R. 1958 "Urartian Reliefs at Adilcevaz on Lake Van, and a Rock Relief from the Karasu, near Birecik" *AnSt* 8: 211-218.

Burney, C. A. and Lawson, G. R. 1960 "Measured Plans of Urartian Fortresses" *AnSt* 10: 177-196.

Burnham, H. B. 1965 "Çatal Hüyük: The Textiles and Twined Fabrics" *AnSt* 15: 169-174.

Calmeyer, P. 1979 "Zu den Eisen-Lanzenspitzen und der 'Lanze des Haldi" in Kleiss, W. (ed.) 1979: 183-193.

Calmeyer, P. 1991 "Helmets and Quivers" in Merhav, R. (ed.) 1991a: 123-133.

Canby, J. V. 1971 "Decorated Garments in Ashurnasirpal's Sculpture" *Iraq* 33/1: 31-53.

Champion, T. 1991 "The theoretical archaeology in Britain" *Archaeological Theory in Europe: The Last Three Decades*. (ed.) Ian Hodder. London, Routledge: 129-160.

Cifola, B. 1995 *Analysis of variants in the Assyrian royal titulary from the origins to Tiglath-Pileser III*. Napoli, Istituto Universitario Orientale.

Crabtree, P. J. 1996 "Production and Consumption in an Early Complex Society: Animal Use in Middle Saxon East Anglia" *World Archaeology* 28/1: 58-75.

Crawford, V. E. 1961 "Hasanlu 1960" *The Metropolitan Museum of Art Bulletin* 20/3: 85-94.

Cocharro, Leonor Pena, Alba Rigamonti, Lanfranco Castelletti and Alfio Maspero 2001 "Preliminary Report on the Plant Remains from Ayanis" in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 391-396.

Costantini, L. and Biasini, L. 1984 "I resti vegetali dei saggi a Qal'eh Ismail Aqa e a Tappeh Gijlar" in Pecorella, P. E. and Salvini, M. (eds.) 1984: 397-402.

Curtis, J. 1996 "Urartian Bronze Belts" *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 86/1: 118-136.

Curtis, J. 1999 "Late Assyrian Agricultural Tools: the Archaeological Evidence" *Landwirtschaft im Alten Orient: Ausgewahlte Vortrage Der XLI. Rencontre Assyriologique*

Internationale Berlin, 4-8.7.1994. (eds.) H. Klengel and J. Renger. Berlin, D. Reimer Verlag: 249-258.

Curtis, J. E., T. S. Wheeler, J. D. Muhly and R.Maddin, 1979 "Neo-Assyrian Ironworking Technology" *Proceedings of the American Philosophical Society* 123/6: 369-390.

Çavuşoğlu, R., H. Biber and Fütühat Başar 2009 "2004-2007 Yılları Van-Kalecik Kazıları" *KST* 30/1: 269-290.

Çevik, N. 2000 *Urartu Kaya Mezarları ve Ölü Gömme Gelenekleri*. Ankara, Türk Tarih Kurumu.

Çilingiroğlu, A. 1978 "Urartu Apadanasinin Kökeni" *AnAr* 6: 97-110.

Çilingiroğlu, A. 1991 "The Early Iron Age at Dilkaya" *Anatolian Iron Ages. The Proceedings of the Second Anatolian Iron Ages Colloquium held at İzmir, 4-8 May 1987*. (eds.) A. Çilingiroğlu and D. H. French. Oxford, Oxbow: 29-38.

Çilingiroğlu, Altan 1992 "Van-Dilkaya Höyüğü Kazıları Kapanış" *KST* XIV/1: 469-491.

Çilingiroğlu, A. 1997 *Urartu Krallığı Tarihi ve Sanatı*. İzmir, Yaşar Eğitim ve Kültür Vakfı.

Çilingiroğlu, A. 2001 "Storerooms" in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 67-83.

Çilingiroğlu A 2004a "Silah, Tohum ve Ateş" *60 yaşında Fahri Işık'a armağan Anadolu'da doğdu (Festschrift für Fahri Işık zum 60. geburtstag)*. (ed.) T. Korkut. İstanbul, Ege Yayınları: 257-267.

Çilingiroğlu, A. 2004b "How was an Urartian Fortress Built?" *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*. Ancient Near Eastern Studies 12, (ed.) A. Sagona. Leuven, Peeters: 205-231.

Çilingiroğlu, A. 2005 "Ritual ceremonies in the Temple area of Ayanis" *Anatolian Iron Ages 5: Proceedings of the Fifth Anatolian Iron Ages Colloquium Held at Van, 6-10, 2005.* (eds.) A. Çilingiroğlu and G. Derbyshire. London, British Institute of Archaeology at Ankara: 31-38.

Çilingiroğlu, A. 2007 “Properties of the Urartian Temple at Ayanis” *Anatolian Iron Ages 6. The Proceedings of the Sixth Anatolian Iron Ages Colloquium held at Eskişehir, 16-20 August 2004.* (eds.) A. Çilingiroğlu and A. Sagona. Leuven, Peeters: 41-46.

Çilingiroğlu, A. 2008 “Ayanis Kalesi depo odaları ile ilgili bazı öneriler” *Muhibbe Darga Armağanı*. (eds.) T. Tarhan, A. Tibet and E. Konyar. İstanbul, Sadberk Hanım Müzesi: 187-196.

Çilingiroğlu, A. 2011a “Ayanis Kalesi /Ayanis Fortress” Urartu: in Köroğlu, K. and Konyar, E. (eds.) 2011: 336-359.

Çilingiroğlu, A. 2011b “Ayanis: An Iron Age Site in the East. *The Oxford Handbook of Ancient Anatolia 10,000-323 BCE*. (eds.) S. R. Steadman and G. McMahon. Oxford, Oxford University Press: 1055-1068.

Çilingiroğlu, A. and Salvini, M. 1999 “When was the castle of Ayanıs built and what is the meaning of the word 'Šuri'?” *AnSt* 49: 55-60.

Çilingiroğlu, A. and Salvini, M. (eds.) 2001a *Ayanis I: Ten Years' Excavations at Rusahinili Eiduru-kai* 1989-1998. Documenta Asiana 6, Rome, CNR.

Çilingiroğlu, A. and Salvini, M. 2001b “The Historical Background of Ayanis” in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 15-24.

Çukur, A. and Kunç, S. 1989 “Development of bronze production technologies in Anatolia” *Journal of Archaeological Science* 16/3: 225-231.

Dalley, S. 1985 “Foreign Chariotry and Cavalry in the Armies of Tiglath-Pileser III and Sargon II” *Iraq* 47: 31-48.

Dalley, S. 2002 “Water Management in Assyria from the Ninth to the Seventh Centuries BC” *ARAM* 14: 443-460.

Dalley, S. 2005 “Water supply for cities in the late eighth and seventh centuries BC: Assyria and Urartu” *Anatolian Iron Ages 5: Proceedings of the Fifth Anatolian Iron Ages Colloquium Held at Van, 6-10.* (eds.) A. Çilingiroğlu and G. Darbyshire. London, British Institute of Archaeology at Ankara: 39-44.

Degens, E., H. Wong, S. Kempe and F. Kurtman 1984 “A geological study of Lake Van, Eastern Turkey” *Geologische Rundschau* 73/2: 701-734.

Derin, Z. 1999 “Potters' Marks of Ayanıs Citadel, Van” *AnSt* 49: 81-100.

Derin, Z. and Çilingiroğlu, A. 2001 “Armour and Weapons” in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 156-187.

Deschamps, S., F. F. de Clairfontaine, David Stronach 2011 “Erebuni: The Environs of the Temple of Haldi during the 7th and 6th centuries BC” *Aramazd* 6/2: 121-140.

de Schauensee, M. (ed.) 2011a *People and Crafts in Period IVB at Hasanlu, Iran*. Hasanlu Special Studies series, Philadelphia, University of Pennsylvania.

de Schauensee, M. 2011b “Furniture Remains and Furniture Ornaments from the Period IVB Buildings at Hasanlu” in M. de Schauensee (ed.) 2011: 1-41.

de Schauensee, M. 2011c “Contexts of Textiles from the Hasanlu IVB Destruction Level” in M. de Schauensee (ed.) 2011: 57-86.

Diakonoff, I. M. 1952 “K voprosu o sud'be plennych v Assirii i Urartu” *VDI* 1: 90-100.

Diakonoff, I. M. 1963a *Urartskie Pis'ma i Dokumenty*. Leningrad-Moscow, Izdatel'stvo Akademii Nauk SSSR.

Diakonoff, I. M. 1963b “Nekotorye dannye o soicla’nom ustrojstve Urartu” *Problemy social’no ekonomoceskoj istorii drevnego mira. Sb. Pamjati akad. A. I. Tjumeneva*. Moscow: 55-65.

Diakonoff, I. M. 1971 *Hurrisch und Urartäisch*. Munich, Kitzinger.

Diakonoff, I. M. 1984 *The Pre-History of the Armenian People*. New York, Caravan Books.

Diakonoff, I. M. 1989 “On Some New Trends in Urartian Philology and Some New Urartian Texts” *AMI* 22: 77-102.

Diakonoff, I. M. 1991a “Sacrifices in the city of Teisebâ (UKN 448) -Lights on the Social History of Urartu” *AMI* 24: 13-21.

Diakonoff, I. M. 1991b “General Outline of the First Period of the History of the Ancient World and the Problem of the Ways of Development” *Early Antiquity*. (ed.) I. M. Diakonoff. Chicago, University of Chicago Press: 27-66.

Diakonoff, I. M. and Kashkai, S. M. 1981 *According Geographical Names to Urartian Texts*. Répertoire Géographique des textes Cunéiformes IX. Wiesbaden, Reichert.

Diakonoff, I. M. and Starostin, S. A. 1986 *Hurro-Urartian as an Eastern Caucasian Language*. Munchen, R. Kitsinger.

Dinçol, A. M. 1974 “Çavuştepe Kazısında Çıkan Yazıtlı Küçük Buluntular I” *Anatolia* 18: 105-121.

Dinçol, A. M. 1976 “Die neuen urartäischen Inschriften aus Körzüt” *Istanbuler Mitteilungen* 26: 19-30.

Dinçol, A. M., B. Dinçol and M. Salvini 2001 “Zwei Urartäische Tontafeln Aus Çavuştepe” *SMEA* XLII/2: 195-202.

Dinçol, A. M. and Kavaklı, E. 1978 “Karahan Köyünde Bulunan Dört Yeni Urartu Yazıtı” *AnAr* VI: 17-43.

Dönmez, E. O. 2003 “Urartian Crop Plant Remains from Patnos (Ağrı), Eastern Turkey” *AnSt* 53: 89-95.

Dönmez, E. O. and Belli, O. 2007 “Urartian plant cultivation at Yoncatepe (Van), eastern Turkey” *Economic Botany* 61/3: 290-298.

Drews, R. 1976 “The Earliest Greek Settlements on the Black Sea” *Journal of Hellenic Studies* 96: 18-31.

Dyson, R. H. 1953 “Archaeology and the Domestication of Animals in the Old World” *American Anthropologist* 55/5: 661-673.

Dyson, R. 1962 “The Hasanlu Project” *Science* 135: 637-647.

Dyson, R. 1965 “Problems of Protohistoric Iran as seen from Hasanlu” *JNES* 24/3: 193-217.

Dyson, R. H. 1989 “Rediscovering Hasanlu” *Expedition* 31/2-3: 3-11.

Dyson, R. H. and Muscarella, Oscar W. 1989 “Constructing the chronology and historical implications of Hasanlu IV” *Iran* 27: 1-27.

Eastern Anatolia Project Master Plan 2000 www.kalkinma.gov.tr/bolgesel.Portal (accessed on 20.10.2011)

Eimanifar, A. and Mohebbi, F. 2007 “Urmia Lake (Northwest Iran): a brief review” *Saline Systems* 3/5: 1-8.

Emre, K. 1969 “Altıntepe'de Urartu Seramiği -The Urartian Pottery from Altıntepe” *Belleten* 33: 291-301.

Erdem, A. Ü. and Çilingiroğlu, A. 2010 “Domestic Architecture in the Urartian Fortress at Ayanis. *Proceedings of the 6th International Congress on the Archaeology of the Ancient Near East May, 5th-10th 2008, “Sapienza” -Università di Roma*. (eds.) P. Matthiae, F. Pinnock, L. Nigro and N. Marchetti. Harrassowitz Verlag: 151-163.

Erdem, A. Ü. and Konyar, E. 2011 “Urartu Çanak Çömleği /Urartian Pottery” in Köroğlu, K. and Konyar, E. (eds.) 2011: 266-283.

Erinç, S. and Tunçdilek, N. 1952 “The Agricultural Regions of Turkey” *Geographical Review* 42/2: 179-203.

Erzen, A. 1962 “Untersuchungen in der urartäischen Stadt Toprakkale bei Van in den Jahren 1959-1961” *Archäologischer Anzeiger* 77/3: 383-414.

Erzen, A. 1963 “Ünseli (Ernis) Mezarlığı” *Belleten* XXVII/107: 542.

Erzen, A. 1965 “Van Bölgesi Çavuştepe Kazısı” *TAD* 14/1-2: 141-146.

Erzen, A. 1970 “Çavuştepe 1969 Kazısı” *Belleten* 135: 493-503.

Erzen, A. 1973 “Çavuştepe Kazıları” *VII. Türk Tarih Kongresi*. Ankara, Türk Tarih Kurumu: 66-69.

Erzen, A. 1977 “Çavuştepe Yukarı Kale ve Toprakkale 1976 Dönemi Kazıları” *AnAr* 4-5: 1-59.

Erzen, A. 1979 “Çavuştepe Yukarı Kale ve Toprakkale 1977 Çalışmaları” *AnAr* VI: 1-15.

Erzen, A. 1982 “Çavuştepe Kazısı Çalışmaları” *KST* 4: 155-164.

Erzen, A. 1986 “Çavuştepe (1961-1986)” *Arkeoloji ve Sanat Tarihi* 34-35: 6-11.

Erzen, A. 1988 *Çavuştepe I. Urartian Architectural Monuments of the 7th and 6th Centuries BC and a necropolis of the Middle Ages*. Ankara, Türk Tarih Kurumu.

Fales, F. M. 1996 “Prices in Neo-Assyrian Sources” *State Archives of Assyria Bulletin* 10/1: 11-35.

Finkelstein, J. J. 1953 “Cuneiform Texts from Tell Billa” *JCS* 7/4: 111-176.

Fleming, S. J., Samuel K. Nash and Charles P. Swann 2011 “The archaeometallurgy of period IVB bronzes at Hasanlu” in M. de Schauensee (ed.) 2011: 103-134.

Fodor, P. 2009 “Ottoman warfare 1300–1453” *The Cambridge history of Turkey Vol. I Byzantium to Turkey, 1071–1453*. (ed.) K. Fleet. Cambridge, Cambridge University Press: 192-226.

Forbes, T. B. 1983 *Urartian Architecture.* Oxford, BAR International Series 170.

Fuchs, A. 1994 *Die Inschriften Sargons II aus Khorsabad*. Göttingen, Cuvillier Verlag.

Fuchs, A. 2012 “Urartu in der Zeit” in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 135-161.

Garbrecht, G. 1980 “The Water Supply System at Tuspa (Urartu)” *World Archaeology* 11/3: 306-312.

Garbrecht, G. 1988 “Water management for irrigation in Antiquity (Urartu 850 to 600 BC)” *Irrigation and Drainage Systems* 2: 185-198.

Geçkinli, A. E., V. Gürkan, Y. Taptık, and S. Başaran 1990 “Çavuştepe Demir Buluntularının Metallografik Etüdü I” *Arkeometri Sonuçları Toplantısı* 6: 97-107.

Gleba, M. 2011 “Textiles Studies: Sources and Methods” *KUBABA* 2: 2-26.

Golabian, H. 2011 “Urumia Lake: Hydro-Ecological Stabilization and Permanence” *Macro-engineering Seawater in Unique Environments.* (eds.) V. Badescu and R. B. Cathcart. Berlin, Springer: 365-397.

Good, I. L. 1999 *The Ecology of exchange: Textiles from Shahr-i Sokhta, eastern Iran*. Unpublished PhD, University of Pennsylvania.

Gorny, R. L. 1996 “Viniculture and Ancient Anatolia” *The Origins and Ancient History of Wine*. (eds.) P. E. McGovern, S. J. Fleming and S. H. Katz. Amsterdam, Gordon and Breach Publishers: 133-174.

Grayson, K. A. 1991 *Assyrian Rulers of the Early First Millenium BC I (1114-859 BC)* Vol.2. Toronto, University of Toronto Press.

Grayson, K. A. 1996 *Assyrian Rulers of the Early First Millennium BC II (858-745 BC)* Vol.3. London, University of Toronto Press.

Grayson, A. K. and Novotny, J. 2012 *The Royal Inscriptions of Sennacherib, King of Assyria (704-681 BC) Part 1*. Winona Lake, Eisenbrauns.

Grayson, A. K. and Yamada, S. 2011 *The Royal Inscriptions of Tiglath-pileser III (744-727 BC), and Shalmaneser V (726-722 BC), Kings of Assyria*. Winona Lake, Eisenbrauns.

Greaves, A. M. 2002 *Miletos A History*. London, Routledge.

Greaves, A. M. 2010 *The Land of Ionia: Society and Economy in the Archaic Period*. Oxford, Wiley-Blackwell.

Hall, M. and Steadman, S. 1991 “Tin and Anatolia: Another Look” *Journal of Mediterranean Archaeology* 4/2: 217-234.

Hancar, F. 1949 “Aus der Problematik Urartus. Urartus Bedeutung für die Urgeschichte Transkaukasiens” *Archiv Orientàlni* 17/1: 298-309.

Hanfmann, G. M. A. 1956 “Four Urartian Bulls' Heads” *AnSt* 6: 205-213.

Härke, H. 1989 “The Unkel Symposia: The Beginnings of a Debate in West German Archaeology?” *Current Anthropology* 30/3: 406-410.

Harmanşah, Ö. 2013 *Cities and the Shaping of Memory in the Ancient Near East*. Cambridge, Cambridge University Press.

Harris, M. V. 1989 “Glimpses of an Iron Age Landscape” *Expedition* 31/2-3: 12-23.

Harutjunjan, N. V. 1964 *Zemledelie i skotovodstvo v Urartu*. Erevan, Akademiia Nauk Armianskoĭ SSR.

Harutjunjan, N. V. 2001 *Korpus urartskich klinoobraznych nadpisej,* Izdatel'stvo 'Gitutjun' Erevan, Nacional'noj Akademija Nauk Respubliki Armenija.

Hauptmann, H. 1972 "Norşun Tepe Kazıları, 1970" *Keban Projesi 1970 Çalışmaları/ Keban Project 1970 Activities.* Ankara, Orta Doğu Teknik Üniversitesi Keban Projesi Yayınları seri I. No 3: 87-101.

Hawkins, J. D. 1980-1983 "Kummuh" *RIA* 6: 338-340.

Haxthausen, B. von 1854 *Transcaucasia: sketches of the nations and races between the Black Sea and the Caspia.* London, Chapman and Hall.

Hayli, S. 2002 "Erzincan Ovasında Genel Arazi Kullanımı" *Fırat Üniversitesi Sosyal Bilimler Dergisi* 12/1: 1-24.

Helburn, N. 1955 "A Stereotype of Agriculture in Semiarid Turkey" *Geographical Review* 45/3: 375-384.

Hellwag, U. 2005 "LUA.ZUM-li versus LUA.NIN-li: Some thoughts on the Owner of the so-called Prinzensiegel at Rusa II's Court" *Anatolian Iron Ages 5: Proceedings of the Fifth Anatolian Iron Ages Colloquium Held at Van, 6-10*. (eds.) A. Çilingiroğlu and G. Darbyshire. London, British Institute of Archaeology at Ankara: 75-84.

Hellwag, U. 2012 "Der Niedergang Urartus" in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 227-241.

Herrmann, H. V. 1966 "Urartu und Griechenland" *Jahrbuch des Deutschen Archäologischen Instituts* 81: 79-141.

Hesse, B. 2002 "Animal Husbandry and Human Diet in the ancient Near East" *Civilization of the Ancient Near East* I. (ed.) J. M. Sasson. New York, Charles Scribner's Sons: 203-222.

Hmayakyan, S. 2002 "The Urartians on the Southern coast of the Lake Sevan" in Biscione, R., S. Hmayakyan, and Neda Parmegiani (eds.) 2002: 277-300.

Hodder, I. 2005 "Post-processual and Interpretive Archaeology" *Archaeology: The Key Concepts*. (eds.) C. Renfrew and P. G. Bahn. London, Routledge: 207-212.

Hodder, I. and Shanks, M. 1997 “Processual, Postprocessual and Interpretive Archaeologies” *Interpreting Archaeology: Finding Meaning in the Past*. (eds.) I. Hodder, M. Shanks, A. Alexandri, V. Buchli, J. Carmen, Jonatha Last and G. Lucas. London, Routledge: 3-29.

Hodjash, S. I. 2000 “Foreign glyptics in the Urartian Centres of Armenia” *VDI* 235/4: 151-154.

Hopf, M. and Willerding, U. 1988 “Pflanzenreste” in Kleiss, W. (ed.) 1988: 263-318.

Hopkins, L. 2003 *Archaeology at the North-East Anatolian Frontier VI. An Ethnoarchaeological Study of Sos Höyük and Yiğittaşı Village*. Louvain, Peeters.

Hovhannissian, C. 1973a *Erebooni*. Yerevan, Hayastan Publishing House.

Hovhannissian, C. 1973b *The Wall-Paintings of Erebooni.* Yerevan, Armenia SSR Academy of Sciences Publishing House.

Howell-Meurs, S. 2001 “Archaeozoological evidence for pastoral systems and herd mobility: the remains from Sos Höyük and Büyüktepe Höyük” *International Journal of Osteoarchaeology* 11/5: 321-328.

Huff, D. 1968 “Das Felsgrab von Eski Doğubayazıt” *Istanbuller Mitteilungen* 18: 58-86.

Hughes, M. J., J. E. Curtis and E. T. Hall 1981 “Analyses of Some Urartian Bronzes” *AnSt* 31: 141-145.

Ingo, G., A. Çilingiroğlu, F. Faraldi, C. Riccucci, M. Casaletto, A. Erdem and A. Batmaz 2010 “The bronze shields found at the Ayanis fortress (Van region, Turkey): manufacturing techniques and corrosion phenomena” *Applied Physics A: Materials Science and Processing* 100/3: 793-800.

Issar, A. S. and Zohar, M. 2007 *Climate Change – Environment and History of the Near East*. Berlin, Springer.

Işık, C. 1986 “Tische und Tischdarstellungen in der urartäischen Kunst” *Belleten* 197: 413-445.

Işık, C. 1990 “Urartäisch-griechischer religionsgeschichtlicher Gedankenaustausch, nach einer Darstellung” *Belleten* 54: 15-27.

Johnson, M. 1999 *Archaeological Theory: An introduction*. Oxford, Wiley-Blackwell.

Kadıoğlu, M, Z. Şen, and E. Batur 1997 "The greatest soda-water lake in the world and how it is influenced by climatic change" *Annales Geophysicae* 15: 1489-1497.

Karaosmanoğlu, M. and Korucu, H. 2012 "The Apadana of Altıntepe in the light of the second season of excavations" *Anatolian Iron Ages 7: The Proceedings of the Seventh Anatolian Iron Ages Colloquium Held at Edirne, 19–24 April 2010*. (eds.) A. Çilingiroğlu and A. Sagona. Leuven, Peteers: 131-148.

Karapetyan, I. 2010 "The "Susi"temple of Argistihinili –Armavir" *Aramazd* 5/2: 36-43

Kasabjan, Z. M. 1957 "Izgotvlenie rastitel'nogo masla v Urartu" *Izvestija Akadcmija Nauk Armjanskoj SSR* 4: 107-116.

Kellner, H.-J. 1991a *Gürtelbleche aus Urartu.* Stuttgart, Franz Steiner Verlag.

Kellner, H.-J. 1991b "Grouping and Dating of Bronze Belts" in Merhav, R. (ed.) 1991a: 142-161.

Kellner, H.-J. 1991c "Personal Adornments Urartu" in Merhav, R. (ed.) 1991a: 164-170.

Kellner, H.-J. 1991d "Votive Plaques" in Merhav, R. (ed.) 1991a: 286-299.

Kessler, K. 1995 "Subria, Urartu and Assur: Topographical Questions around the Tigris Sources" *Neo-Assyrian Geography*. (ed.) M. Liverani. Rome, Università di Roma La Sapienza: 55-67.

King, L.W. 1915 *Bronze Reliefs from the Gates of Shalmaneser King of Assyria B.C. 860-825*. London, Oxford University Press.

Khachikyan, M. 2006 "Notes on the Urartian Verb" *SMEA* XLVIII: 143-149.

Khanzaq, R. B., R. Biscione, Ali R.Hejebri-Nobari and Mirjo Salvini 2001 "Haldi's garrison -Haldi's protection: The newly found rock inscription of Argišti II in Shisheh, near Ahar (East Azerbaijan, Iran)" *SMEA* 43/1: 25-37.

Khanzadyan, E. V., K. H. Mkrtchyan, Ē S. Parsamyan 1973 *Metsamor: Archaeological Fieldwork at Metsamor 1965-1966 (in Armenian).* Erevan, Academy of Soviet Armenia, Institute of Archaeology and Ethnography.

Klein, J. J. 1974 “Urartian hieroglyphic inscriptions from Altintepe” *AnSt* 24: 77-94.

Kleiss, W. 1972 “Ausgrabungen in der urartäischen Festung Bastam (Rusahinili) 1970” *AMI* 5: 1-68.

Kleiss, W. 1974 “Planaufnahmen urartäischer Burgen und Neufunde urartäischer Anlange in Iranisch-Azerbidjan im Jahre 1973” *AMI* 7: 79-106.

Kleiss, W. 1979 (ed.) *Bastam I: Ausgrabungen in den Urartäischen Anlagen 1972-1975.* Berlin, Gebr. Mann. Verlag.

Kleiss, W 1980 “Bastam, an Urartian citadel complex of the seventh century BC” *AJA* 84: 299-304

Kleiss, W. 1988 (ed.) *Bastam II: Ausgrabungen in den Urartäischen Anlagen 1977-78.* Berlin, Gebr. Mann. Verlag.

Kleiss, W. 1994 “Notes on the Chronology of Urartian Defensive Architecture” *Anatolian Iron Ages III: The Proceedings of the Third Anatolian Iron Ages Colloquium held at Van, 6-12 August 1990*. (eds.) A. Çilingiroğlu and D. H. French. Ankara, British Institute of Archaeology Monograph No 16: 131-137.

Kleiss, W. and Hauptmann, H. 1976 *Topographische Karte von Urartu,* (Archaeologische Mitteilungen aus Iran 3). Berlin, Dietrich Reimer Verlag.

Koday, S. 2005 *Doğu Anadolu Bölgesinde Hayvancılık.* Erzurum, Atatürk Üniversitesi Yayınları No: 949.

Kohler, J. 1913 *Assyrische Rechtsurkunden in Umschrift und Uebersetzung nebst einem Index der Personen-namen und Rechtserläuterungen*. Leipzig, Derta g von ¢buarb Pfeiffer.

Konyar, E. 2005 “Grooved Pottery of the Van Lake Basin: A Stratigraphical and Chronological Assessment” *Colloquium Anatolicum* IV: 105–127.

Konyar, E. 2006 “An Ethno-Archaeological Approach to the “Monumental Rock Signs” in Eastern Anatolia” *Colloquium Anatolicum* V: 113-126.

Konyar, E. 2011 “Excavations at the Mound of Van Fortress/Tuspa” *Colloquium Anatolicum* 10: 147-166.

Korfmann, M. 1982 *Tilkitepe: Die Ersten Ansätze Prähistorischer Forschung in Der Östlichen Türkei*. Tübingen, Ernst Wasmuth.

Kozbe, G., Ö. Çevik and H. Sağlamtimur 2001 "Pottery" in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 85-153.

König, F. W. 1955-57 *Handbuch der chaldischen Inscriften I-II.* Graz, Selbstverlag Ernst Weidners.

Köroğlu, K. 1996 *Urartu Krallığı Döneminde Elazığ (Alzi) ve Çevresi*. İstanbul, Arkeoloji ve Sanat Yayınları.

Köroğlu, K. 2001 "Urartu Krallığı'nın kuzey yayılımı ve Qulha ülkesinin tarihi coğrafyası" *Belleten* LXIV/241: 717-741.

Köroğlu, K. 2007 "New observations on the origin of the single-roomed rock-cut tombs of eastern Anatolia" *Belkıs Dinçol ve Ali Dinçol'a Armağan. VITA. Festschrift in Honor of Belkıs Dinçol and Ali Dinçol*. (eds.) M. Alparslan, M. Doğan-Alparslan and H. Peker. İstanbul, Ege Yayınları: 445-456.

Köroğlu, K. 2009 "Urartu Dönemi Bey Konakları" in Sağlamtimur, H., E. Abay, Z. Derine, A.Ü. Erdem, A. Batmaz, F. Dedeoğlu, M. Erdalkıran, M.B. Baştürk and E. Konakçı (eds.) 2009: 383-394.

Köroğlu, K. 2012 "The Kingdom of Urartu and Native Cultures" *Anatolian Iron Ages 7: The Proceedings of the Seventh Anatolian Iron Ages Colloquium Held at Edirne, 19–24 April 2010*. (eds.) A. Çilingiroğlu and A. Sagona. Leuven, Peteers: 149-166.

Köroğlu, K. and Konyar, E. (eds.) 2011 *Urartu: Doğu'da Değişim / Transformation in the East*. İstanbul, Yapı Kredi Yayınları.

Kravitz, Kathryn F. 2003 "A Last-Minute Revision to Sargon's Letter to the God" *JNES* 62/2: 81-95.

Kroll, S. 1979a "Die urartäische Keramik aus Bastam" in Kleiss, W. (ed.) 1979: 203-220.

Kroll, S. 1979b "Gefassmariken in urartäischer Hieroglyphenschrift und Keilschrift aus Bastam" in Kleiss, W. (ed.) 1979: 221-228.

Kroll, S. 1984 'Urartus Untergang in anderer Sicht' *Istabuller Mitteilungen* 34: 151-170.

Kroll, S. 1988 “Die Keramik” in Kleiss, W. (ed.) 1988: 165-173.

Kroll, S. 2012 “Rusa Erimena in archäologischem Kontext” in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 183-186.

Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012 *Biainili-Urartu: The Proceedings of the Symposium held in Munich 12-14 October 2007 Tagungsbericht des Münchner Symposiums 12.-14. Oktober 2007*. Acta Iranica 51, Leuven, Peeters.

Kuban, Zeynep 2003 “Arkeoloji ve İdeoloji” *Arkeoloji: Niye? Nasıl? Ne İçin?* (eds.) Oğuz Erdur and Güneş Duru. İstanbul, Ege Yayınları: 157-161.

Kuniholm, P. I. and Newton, M. W. 2001 “Dendrochronological Investigations at Ayanis: Dating the Fortress of Rusa II: Rusahinili Eiduru-Kai” in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 377-380.

Kuzucuoğlu, C., A. Christol, D. Mouralis, A-F. Doğu, E. Akköprü, M. Fort, D. Brunstein, H. Zorer, M. Fontugne, M. Karabiyikoğlu, S. Scaillet, J-L. Reyss, H. Guillou, 2010 “Formation of the Upper Pleistocene terraces of Lake Van (Turkey)” *Journal of Quaternary Science* 25/7: 1124-1137.

Laessøe, J. 1951 “The Irrigation System at Ulhu, 8th century BC” *JCS* 5: 21-32.

Læssøe, J. 1959 “Building Inscriptions from Fort Shalmaneser, Nimrud” *Iraq* 21/1: 38-41

Lake, K. 1940 “Vanda Yapılan Harfiyat, 1938” *Türk Tarih Arkeoloji ve Etnografya Dergisi* 4: 179-191.

Lambert, W. G. 1961 “The Sultantepe Tablets (continued). VIII Shalmaneser in Ararat” *AnSt* 11: 143-158.

Lanfranchi, G. B. 1983 “Some New Texts about a Revolt against the Urartian King Rusa I” *Oriens Antiquus* 22: 123-136.

Lanfranchi, G. B. and Parpola, S. 1990 *The correspondence of Sargon II, Part II, Letters from the Northern and Northeastern Provinces*. Helsinki, Helsinki University Press.

Larsen, M. T. 1976 *The Old Assyrian City-State and its Colonies*. Mesopotamia Copenhagen Studies in Assyriology Vol. 4, Copenhagen.

Larsen, M. T. 1996 *The Conquest of Assyria: Excavations in an Antique Land 1840-1860*. London, Routledge.

Leichty, E. 2011 *The Royal Inscriptions of Esarhaddon, King of Assyria (680-669 BC).* Winona Lake, Eisenbrauns.

Lehmann-Haupt, C. F. 1931 *Armenien Einst un Jetzt*. Berlin, B. Behrs Verlag/Friedrich Feddersen.

Lehner, J. W., A. Yener, and James Burton 2009 "Lead Isotope Analysis and Chemical Characterization of Metallic Residues of an Early Bronze Age Crucible from Göltepe: Using ICP-MS" *TÜBA-AR* 12: 165-174.

Levine, L. D. 1977a "Sargon's Eighth Campaign" *Mountains and Lowlands: Essays in the Archaeology of Greater Mesopotamia*. (eds.) L. D. Levine and T. C. Young, Malibu. Undena Publications: 135-151.

Levine, L. D. 1977b "East-West Trade in the Late Iron Age: A View from the Zagros" *Le plateau iranien et l'Asie centrale des origines à la conquête islamique: Paris 22-24 mars 1976*. Paris, Colloques internationaux du Centre national de la recherche scientifique, no. 567: 171-186.

Lindsay, I. and Smith, A. T. 2006 "A History of Archaeology in the Republic of Armenia" *Journal of Field Archaeology* 31/2: 165-184.

Liverani, M. 1981 "Critique of Variants and the Titulary of Sennacherib" *Assyrian Royal Inscriptions: New Horizons in literary, ideological, and historical analysis papers of a symposium held in Cetona (Siena) June 26-28, 1980*. (ed.) F. M. Fales. Roma, Istituto Per L'oriente: 225-258.

Liverani, M. 2003 "The Influence of Political Institutions on Trade in the Ancient Near East (Late Bronze to Early Iron Age)" *Mercanti e Politica Nel Mondo Antico*. (ed.) C. Zaccagnini. Roma, L'erma di Bretschneider: 119-138.

Longford, C., A. Drinnan and A. Sagona 2009 "Archaeobotany of Sos Höyük, northeast Turkey" *New Directions in Archaeological Science*. (eds.) A. Fairbairn, S. O'Connor and B. Marwick. Canberra, ANU-E Press: 121-136

Love, N. 2011 “The Analysis and Conservation of the Hasanlu Period IVB Textiles” in M. de Schauensee (ed.) 2011: 43-56.

Luckenbill, D. D. 1989 *Ancient Records of Assyria and Babylonia I-II*. London, Histories & Mysteries of Man.

Martirosyan, A. A. 1967 “Raskopki Argistichinili” *Sovetskaia Archeologia* 4: 220-236.

Martirosyan, A. A. 1974 *Argistichinili*, Archeologiceskie Pamjatniki Armenii 8, Erevan, Izdatel’stvo Akademii Nauk Armjanskoj SSR.

Mattila, R. 2000 *The king's magnates: A study of the highest officials of the Neo-Assyrian Empire*. Helsinki, Helsinki University Press.

Mays, L. W. 2010 “A Brief History of Water Technology during Antiquity: Before the Romans” *Ancient Water Technologies*, (ed.) L. W. Mays. London & New York, Springer: 1-28.

Maxwell-Hyslop, K. R. 1956 “Urartian Bronzes in Etruscan Tombs” *Iraq* 18/2: 150-167.

Maxwell-Hyslop, K. R. 1974 “Assyrian Sources of Iron: A Preliminary Survey of the Historical and Geographical Evidence” *Iraq* 36/1-2: 139-154.

McConchie, M. 2004 *Archaeology at the north-east Anatolian frontier, V: Iron Technology and Iron-making Communities of the First Millennium BC*. Louvain, Peeters.

Medvedskaya, I. N. 1988 “Who destroyed Hasanlu IV?” *Iran* 26: 1-15.

Melikishvili, G. A. 1951 “Nekotorye voprosy social'no-ekononüöeskom istorii Nairi-Urartu” *VDI* 4: 22-40.

Melikishvili, G. A. 1953 “K voprosy o carskich chozjastvach i rabach-plennikach v Urartu” *VDI* 1: 22-29.

Melikishvili, G. A. 1960 *Urartskie Klinoobraznye Nadpisi*. Moscow, Izdatel'stvo Akademii Nauk SSSR.

Melikishvili, G. A. 1971 *Die Urartäische Sprache*. Rome, Biblical Institute Press.

Melikishvili, G. A. 1978 “Some aspects of the question of the socioeconomic structure of ancient Near Eastern societies” *Soviet Anthropology and Archaeology* 17/1: 25-72.

Mellink, M. J. 1963 “Archaeology in Asia Minor” *AJA* 67: 173-190.

Merhav, R., (ed.) 1991a *Urartu: A Metalworking Center in the First Millennium BCE*. Jerusalem, Israel Museum.

Merhav, R. 1991b “Chariot Accessories” Urartu: in Merhav, R. (ed.) 1991a: 53-78.

Merhav, R. 1991c “Pairing and Grouping of Chariot and Horse Gear” in Merhav, R. (ed.) 1991a: 97-113.

Merhav, R. 1991d “Shields” in Merhav, R. (ed.) 1991a: 134-139.

Merhav, R. 1991e “Some Observations Pectorals and Medallions” in Merhav, R. (ed.) 1991a: 171-176.

Merhav, R. 1991f “Everyday and ceremonial utensils” in Merhav, R. (ed.) 1991a: 200-243.

Merhav, R. 1991g “Secular and Cultic Furniture” in Merhav, R. (ed.) 1991a: 246-271.

Merhav, R. 1991h “Architectural Elements: Functional and Symbolic” in Merhav, R. (ed.) 1991a: 302-309.

Meyer, G. R. 1955 “Ein neuentdeckter urartäischer Brustschmuck” *Das Altertum* 1: 205-213.

Meyer, G. R. 1967 “Zur Bronzestatuette VA 774 aus Toprak-Kale” *Forschungen und Berichte* 8: 7-11.

Meyer, G. R. 1968 “Bemerkungen zu einigen urartaischen Bronzen aus Toprak-Kale” *Festschün Werner Caskel zum siebsigsten Geburtstag*, 5 *Marz 1966.* (ed.) E. Graf. Leiden, Brill: 212-223.

Michel, C. and Veenhof, K. R. 2010 “The textiles traded by the Assyrians in Anatolia (19th–18th centuries BC)” *Textile Terminologies in the Ancient Near East and Mediterranean from the Third to the First Millennia BC*. (eds.) C. Michel and M. L. Nosch. Oxford, Oxbow: 210-271.

Mkrtiachan, B. 1967 “The Mystery of Metsamor” *New Orient* 3: 76-78.

Mileto, F. and Salvini, M. 2010 “On the Estimation of the Volumes of Some Urartian Pithoi” *Ancient West & East* 9: 21-42.

Morier, J. 1816 *A Journey through Persia, Armenia, and Asia Minor, to Constantinople, in the years 1808 and 1809*. Philadelpia.

Moorey, P. R. S. 1994 *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence*. Oxford, Clarendon Press.

Muhly, J. D. 1977 "The Copper Ox-Hide Ingots and the Bronze Age Metals Trade" *Iraq* 39/1: 73-82.

Muhly, J. D. 1985 "Sources of Tin and the Beginnings of Bronze Metallurgy" *AJA* 89/2: 275-291.

Muhly, J. D. 1993 "Early Bronze Age Tin and the Taurus" *AJA* 97/2: 239-253.

Muhly, J. D., R. Maddin, T. Stech and E. Özgen 1985 "Iron in Anatolia and the Nature of the Hittite Iron Industry" *AnSt* 35: 67-84.

Muscarella, O. W. 1962 "The Oriental Origin of Siren Cauldron Attachments" *Hesperia* 31: 317-329.

Muscarella, O. W. 1971 "Qalatgah: an Urartian site in Northwestern Iran" *Expedition* 13/3-4: 44-49.

Muscarella, O. W. 1973 "Excavations at Agrab Tepe, Iran" *Metropolitan Museum Journal* 8: 47-76.

Muscarella, O. W. 1974 "The Iron Age at Dinkha Tepe, Iran" *Metropolitan Museum Journal* 9: 35-90.

Muscarella, O. W. 1986 "The Location of Ulhu and Uiše in Sargon II's Eighth Campaign, 714 BC" *Journal of Field Archaeology* 13/4: 465-475.

Muscarella, O. W. 1992 "Greek and Oriental Cauldron Attachments: A Review" *Greece between East and West: 10th-8th Centuries BC; Papers of the Meeting at the Institute of Fine Arts, New York University March 15-16th 1990*. (eds.) G. Kopcke and I. Tokumaru. Mainz, Verlag Philipp von Zabern: 16-45.

Muscarella, O. W. 2006 "Urartian Metal Artifacts: an Archaeological Review" *Ancient Civilizations from Scythia to Siberia* 12/1-2: 147-177.

Müftüoğlu, Ş. 1975 “Urartu Dokulmalarında Tiftik” *Lalahan Zootekni Araştırma Enstitüsü Dergisi* 15 /1-2: 35-38.

Naval Int. Div. 1945 *Naval Intelligence Division: Persia*. BR 525, Naval Intelligence Division, Oxford.

Nesbitt, M. and Summers, G. D. 1988 “Some Recent Discoveries of Millet (Panicum miliaceum L. and Setaria italica (L.) P. Beauv) at Excavations in Turkey and Iran” *AnSt* 38: 85-97.

Newton, M. W. and Kuniholm, P. I. 2007 “A Revised dendrochronological date for the fortress of Rusa II at Ayanis: Rusahinili Eiduru-kai” *Anatolian Iron Ages 6: The Proceedings of the Sixth Anatolian Iron Ages Colloquium Held at Eskişehir, 16-20 August 2004*. (eds.) A. Çilingiroğlu and A. Sagona. Leuven, Peeters: 195-206.

Nezafati, N., E. Pernicka and M. Momenzadeh 2009 “Introduction of the Deh Hosein Ancient Tin-Copper Mine, Western Iran: Evidence from Geology, Archaeology, Geochemistry and Lead Isotope Data” *TÜBA-AR* 12: 223-236.

Nylander, C. 1966 “Remarks on the Urartian Acropolis at Zernaki Tepe” *Orientalia Suecana* 14-15: 141-154.

Oates, D. and Oates, J. 1988 “An Urartian stamp cylinder from north-eastern Syria” *Iranica Antiqua* 23: 217-219.

Oates, J. and Oates, D. 2001 *Nimrud An Assyrian Imperial City Revealed*. London, British School of Archaeology in Iraq.

Obermaier, H. 2006 “Tierknochenfunde aus Horom, Armenien, von der frühen Bronzezeit bis in späturartäische Zeit” *AMIT* 38: 141-195.

Oded, B. 1979 *Mass Deportations and Deportees in the Neo-Assyrian Empire*. Wiesbaden, Ludwig Reichert Verlag.

Oganesjan, K. L. 1960 “Raskopki urartsogo goroda Erebuni” *Sovetskaia Archeologia* 3: 289-296.

Oganesjan, K. L. 1961 *Arin-Berd I. Architektura Erebuni: Po materialam raskopok 1950-1959.* Archeologiceskie Raskopki v Armenii 9, Erevan, Izdatel'stvo Akademii Nauk Armjanskoj SSR.

Onar, V., A. Armutak, O. Belli and E. Konyar 2002 "Skeletal remains of Dogs unearthed from the Van-Yoncatepe Necropolises" *International Journal of Osteoarchaeology* 12: 317-334.

Onar, V., O. Belli and P. R. Owen 2005 "Morphometric examination of Red Fox (Vulpes vulpes) from the Van-Yoncatepe Necropolis in Eastern Anatolia" *International Journal of Morphology* 23/3: 253-260.

Onar, V., G. Pazvant, and O. Belli 2008 "Osteometric examination of metapodial bones in sheep (Ovis aries L.) and goat (Capra hircus L.) unearthed from the Upper Anzaf Castle in Eastern Anatolia" *Revue de médecine vétérinaire* 159/3: 150-158.

Oppenheim, A. L. 1949 "The Golden Garments of the Gods" *JNES* 8/3: 172-193.

Oppenheim, A. L. 1964 *Ancient Mesopotamia: Potrait of a Dead Civilization.* Chicago, University of Chicago Press.

Osten, H. H. von der 1952 "Die urartäische Töpferei aus Van und die Möglichkeiten ihrer Einordnung in die anatolische Keramik I" *Orientalia* 21: 307-328.

Osten, H. H. von der 1953 "Die urartäische Töpferei aus Van und die Möglichkeiten ihrer Einordnung in die anatolische Keramik II" *Orientalia* 22: 329-354.

Öğün, B. 1967 "Die Ausgrabungen von Kef Kalesi bei Adilcevaz und einige Bemerkungen uber die urartaische Kunst" *Archäologische Anzeiger*: 481-503.

Öğün, B. 1970 *Van'da Urartu Sulama Tesisleri ve Şamram (Semiramis) Kanalı*. Ankara, Türk Tarih Kurumu.

Öğün, B. 1974 "Patnos: Urartian Tombs, 1973" *AnSt* 24: 45.

Öğün, B. 1978a "Die urartäischen Gräber in der Gegend von Adilcevaz und Patnos" *Proceedings of the Tenth International Congress of Classical Archaeology*. (ed.) E. Akurgal. Ankara, Türk Tarih Kurumu: 61-67.

Öğün, B. 1978b “Die urartäischen Besstattungsbräuche” *Studien zur Religion und Kultur Kleinasiens: Festschrift für Friedrich Karl Dörner zum 65. Geburtstag am 28. Februar 1976*. (eds.) S. Şahin, E. Schwertheim and J. Wagner. Leiden, Brill: 639-678.

Özbal, H. 2009 “New analytical data from Göltepe crucibles” *TÜBA-AR* 12: 157-163.

Özfırat, A. 2002 “Khabur Ware from Hakkari” *ANES* 39: 141-151.

Özfırat, A. 2006 “Pre-Classical Survey in Eastern Turkey. Fifth Preliminary Report. Van Lake Basin and Mt. Ağrı Region” *SMEA* 48: 177-207.

Özfırat, A. 2007 “A Survey of Pre-Classical Sites in Eastern Turkey. Fourth Preliminary Report: The Eastern Shore of Lake Van” *ANES* 44: 113-140.

Özfırat, A. and C. Marro 2004 2003 Yılı Van, Ağrı ve Iğdır İlleri Yüzey Araştırması” *AST* 22/2: 299-316.

Özgüç, T. 1966 *Altıntepe I, Mimarlık Anıtları ve Duvar Resimleri*. Ankara, Türk Tarih Kurumu.

Özgüç, T. 1969 *Altıntepe II Mezarlar, Depo Binası ve Fildişi Eserler*. Ankara, Türk Tarih Kurumu.

Özgüç, T. 1983 “Jewellery, Gold Votive Plaques and a Silver Belt from Altıntepe” *AnSt* 33: 33-37.

Parker, B. J. 1998 “Abaliuqunu” *The Prosopography of the Neo-Assyrian Empire* Vol. 1, Part I. (ed.) A. K. Radner. Helsinki, University of Helsinki: 23-24.

Parker, B. J. 2001 *The Mechanics of Empire: The Northern Frontier of Assyria as a case study in Imperial Dynamics*. Helsinki, University of Helsinki.

Parker, B. J. 2011 “The Construction and Performance of Kingship in the Neo-Assyrian Empire” *Journal of Anthropological Research* 67: 357-386.

Parker, B. J, Lauren Ristvet, Veli Baxşəliyev, Səfər Aşurov and Alex Headman 2011 “In the shadow of Ararat intensive surveys in the Araxes River Region, Naxçivan, Azerbaijan” *Anatolica* 37: 187-205.

Payne, M. 2005 *Urartian Measures of Volume*. Louvain, Peeters.

Payne, M. R. and Ceylan, A. 2003 “A New Urartian Inscription from Ağrı-Pirabat” *SMEA* XLV/2: 191-201.

Payne, M. and Sevin, V. 2001 “A New Urartian Inscription from Elazığ/Bahçecik, Eastern Turkey” *SMEA* XLIII/1: 111-119.

Pecorella, P. E. and Salvini, M. 1982 “Researches in the Region between the Zagros Mountains and Urmia Lake” *Persica* 10: 1-35.

Pecorella, P. E. and Salvini, M. 1984 (eds.) *Tra lo Zagros e l'Urmia: Richerche storiche ed archeologiche nell'Azerbaigiano Iranico.* Rome, Edizioni dellAteneo.

Pernicka, E., G. A. Wagner, J. D. Muhly and Ö. Öztunalı 1992 “Comment on the discussion of the Ancient Tin Sources in Anatolia” *Journal of Mediterranean Archaeology* 5/1: 91-98.

Piaskowski, J. and Wartke, R.-B. 1989 “Technologische Untersuchungen an einigen urartäischen Eisenobjekten aus Toprakkale” *Forschungen und Berichte* 27: 89-113.

Pigott, V. C. 1989 “The emergence of Iron use at Hasanlu” *Expedition* 31/2-3: 67-79.

Piotrovsky, B. B. 1950 *Karmir-Blur* I. Archeologiceskie Raskopki v Armenii 1, Erevan, Izdatel'stvo Akademii Nauk Armjanskoj SSR.

Piotrovsky, B. B. 1952 *Karmir-Blur* II. Archeologiceskie Raskopki v Armenii 2, Erevan, Izdatel'stvo Akademii Nauk Armjanskoj SSR.

Piotrovsky, B. B. 1955 *Karmir-Blur* III. Archeologiceskie Raskopki v Armenii 5, Erevan, Izdatel'stvo Akademii Nauk Armjanskoj SSR.

Piotrovsky, B. B. 1959 *Vanskoe Carstvo (The Kingdom of Urartu)*. Moscow, Izdatel'stvo Vostočnoj Literatury

Piotrovsky, B. B. 1967 *Urartu the Kingdom of Van and its Art*. London, Evelyn Adams & Mackay.

Piotrovsky, B. B. 1969 The *Ancient Civilization of Urartu*. London, Nagel Publishers.

Piotrovsky, B. B. 1970 *Karmir Blur*. Leningrad, Aurora Art Publishers.

Pollington, V. 1840 “Notes on a Journey from Erẓ-Rum, by Mush, Diyar-Bekr, and Bireh-jik, to Aleppo, in June, 1838” *Journal of the Royal Geographical Society of London* 10: 445-454.

Polanyi, K. 1957a “Marketless Trading in Hammurabi's time” *Trade and Market in the Early Empires Economies in History and Theory*. (eds.) K. Polanyi, C. M. Arensberg and H. W. Pearson. London, Free Press: 12-26.

Polanyi, K. 1957b “The Economy as Instituted Process” *Trade and Market in the Early Empires: Economies in History and Theory*. (eds.) K. Polanyi, C. M. Arensberg and H. W. Pearson. London, Free Press: 243-269.

Postgate, J. N. 1976-1980 “Katmuhu” *RIA* 5: 487-488.

Postgate, J. N. 1979 “The economic structure of the Assyrian Empire” *Power and propaganda: A symposium on Ancient Empire*. (ed.) M. T. Larsen. Copenhagen, Akad. Forlag: 193-221.

Postgate, J. N. 1980 “The Place of the Šaknu in Assyrian Government” *AnSt* 30: 67-76.

Postgate, J. N. 1995 “Assyria: the Home Provinces” *Neo-Assyrian Geography*. (ed.) M. Liverani. Roma, Universita di Roma "La Sapienza": 1-17.

Postgate, J. N. 2000 “The Assyrian Army in Zamua” *Iraq* 62: 89-108.

Postgate, J. N. 2007 “The invisible hierarchy: Assyrian military and civilian administration in the 8th and 7th centuries BC” *The land of Assur & the yoke of Assur studies on Assyria 1971-2005*. N. Postgate. Oxford, Oxbow: 331-361.

Powell, M. A. 1987-90 “Masse und Gewichte” *RIA* 7: 457-517.

Radner, K. 1999 “Traders in the Neo-Assyrian Period” *Trade and Finance in Ancient Mesopotamia, Proceedings of the 1st MOS Symposium, Leiden, December 19-20, 1997*. (ed.) J. G. Dercksen. Leiden, Nederlands Instituut voor het Nabije Oosten: 101-126.

Radner, K. 2003 “The Trials of Esarhaddon: the Conspiracy of 670 BC” *Assur und sein Umland. Isimu: Revista sobre Oriente Proximo y Egipto en la antiguedad* 6. (eds.) P. Miglus and J. M. Cordoba. Servico de Publicasiones Universidad Autonoma de Madrid: 165-184.

Radner, K. 2010 “Assyrian and non-Assyrian kingship in the first millennium BC” *Concepts of Kingship in Antiquity, Proceedings of the European Science Foundation Exploratory Workshop Held in Padova, November 28th–December 1st, 2007*. (eds.) G. B. Lanfranchi and R. Rollinger. Padova, S.A.R.G.O.N. Editrice e Libreria: 15-24.

Reade, J. E. 1978 “Kassites and Assyrians in Iran” *Iran* 16: 137-143.

Redding, R. 1985 “The Role of faunal remains in the explanation of the development of complex societies in South-West Iran: Potential, Problems and the Future” *Paléorient* 11/2: 121-124.

Riemschneider, M. 1966 *Das Reich am Ararat*. Leipzig, Koehler & Amelang.

Reindell, I. 2009 “A note on the use Of "Egyptian Blue" in Urartian sites” in Sağlamtimur, H., E. Abay, Z. Derine, A.Ü. Erdem, A. Batmaz, F. Dedeoğlu, M. Erdalkıran, M.B. Baştürk and E. Konakçı (eds.) 2009: 533-535.

Reindell, I. and Reinderer, J. 2003 “The Urartian Bronzes of Ayanis (Turkey). First Metal Analyses” *SMEA* XLV/2: 203-207.

Reindell, I. and Salvini, M. 2001 “Die urartäischen Hohlmasse für Flüssigkeiten” *SMEA* 43/1: 121-141.

Renger, J. 1994 “On Economic Structures in Ancient Mesopotamia” *Orientalia Nova Series* 63/3: 157-208.

Roaf, M. 2012 “Could Rusa son of Erimena have been king of Urartu during Sargon' s Eighth Campaign?” in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 187-216.

Root, M. C. 1979 *The king and kingship in Achaemenid art: essays on the creation of an iconography of empire*. Acta Iranica 19, Leiden, Brill.

Sabloff, J. 2005 “Processual Archaeology” *Archaeology: The Key Concepts*. (eds.) C. Renfrew and P. G. Bahn. London, Routledge: 212-219.

Saggs, H. W. F. 1959 “A lexical consideration for the date of Deutero-Isaiah” *The Journal of Theological Studies* X/1: 84-87.

Saggs, H. W. F. 1988 *The Greatness that was Babylon: A Survey of the Ancient civilisation of the Tigris-Euphrates Valley*. London, Sidgwick & Jackson.

Saggs, H. W. F. 2001 *The Nimrud Letters, 1952*. Wiltshire, British School of Archaeology in Iraq.

Sagona, C. 2004 “Did Xenophon take the Aras High Road? Observations on the Historical Geography of North-East Anatolia” *View from the Highlands Archaeological Studies in Honour of Charles Burney*. Ancient Near Eastern Studies 12, (ed.) A. Sagona. Leuven, Peeters: 299-333.

Sagona, A., C. Sagona and H. Özkorucuklu 1995 “Excavations at Sos Höyük 1994: First Preliminary Report” *AnSt* 45: 193-218.

Sagona, A. and Erkmen, M. 1998 “Excavations at Sos Höyük, 1997: Fourth Preliminary Report” *Anatolica* XXIV: 31-64.

Sagona, A., M. Erkmen, C. Sagona, and I. Thomas 1996 “Excavations at Sos Höyük, 1995: Second Preliminary Report” *AnSt* 46: 27-52.

Sağlamtimur, H. 2005 “The Volumes of some Urartian Pithoi” *Anatolian Iron Ages 5. Proceedings of the Fifth Anatolian Iron Ages Colloquium held at Van, 6-10 August 2001*. (eds.) A. Çilingiroğlu and G. Darbyshire. London, British Institute of Archaeology at Ankara: 139-143.

Sağlamtimur, H., G. Kozbe and Özlem Çevik, 2001 “Small Finds” in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 219-250.

Sağlamtimur, H., E. Abay, Z. Derine, A.Ü. Erdem, A. Batmaz, F. Dedeoğlu, M. Erdalkıran, M.B. Baştürk and E. Konakçı (eds.) 2009 *Altan Çilingiroğlu'na Armağan. Yukarı Denizin Kıyısında Urartu Krallığı'na Adanmış Bir Hayat / Studies in Honour of Altan Çilingiroğlu. A Life Dedicated to Urartu on the Shores of the Upper Sea*. İstanbul, Arkeoloji ve Sanat Yayınları.

Salvini, M. 1977 “Eine neue urartäische Inschrift aus Mahmud Abad (West-Azerbaidjan)” *AMI* 10: 125-136.

Salvini, M. 1979a “Die urartaischen Tontafeln” in Kleiss W. (ed.) 1979: 115-131.

Salvini, M. 1979b “Das Susi-Heiligtum von Karmir-Blur und der Urartäische Turmtempel” *AMI* 12: 249-269.

Salvini, M. 1979c “Una “bilingue” assiro-urartea” *Studia Mediterranea Piero Meriggi dicata*. (ed.) O. Carruba. Pavia, Aurora Edizioni: 575-593.

Salvini, M. 1980 “Inscrizione cuneiformi Urartee su oggetti di metalli” *SMEA* 22: 181-190.

Salvini, M. 1991 “Historical introduction” in Merhav, R. (ed.) 1991a: 1-13.

Salvini, M. 1993 “Reflections about the Urartian shrines of the stelae” *Aspects of Art and Iconography: Anatolia and its Neighbors. Studies in Honor of Nimet Özgüç*. (eds.) M. J. Mellink, E. Porada and T. Özgüç. Ankara, Türk Tarih Kurumu: 543-548.

Salvini, M. 1994 “The Historical Background of the Urartian Monument of Meher Kapısı” *Anatolian Iron Ages 3. The Proceedings of the Third Anatolian Iron Ages Colloquium held at Van, 6-12 August 1990*. (eds.) A. Çilingiroğlu and D. H. French. Ankara, British Institute of Archaeology at Ankara: 205-210.

Salvini, M. 1998a “Nairi” *RIA* 9: 87-91.

Salvini, M. 1998b “The inscription of the Urartian king Rusa II at Kefkalesi (Adilcevaz)” *SMEA* 40: 123-129.

Salvini, M. 2001a “Pas de qanats en Urartu” *Irrigation et drainage dans I'Antiquité. Qanats et canalisations souterraines en Iran, en Égypte et en Grèce, séminaire tenu au Collège de France sous la direction de Pierre Briant*. (ed.) P. Briant. Paris, Thotm éditions: 143-155.

Salvini, M. 2001b “The Inscriptions of Ayanıs (Rusahinili Eiduru-Kai) Cuneiform and Hierogliphic” in Çilingiroğlu and Salvini (eds.) 2001: 251-270.

Salvini, M. 2001c “Royal Inscriptions on Bronze Artifacts” in Çilingiroğlu, A. and Salvini M.(eds.) 2001: 271-278.

Salvini, M. 2001d “Inscriptions on Clay” in Çilingiroğlu, A. and Salvini, M. (eds.) 2001: 279-319.

Salvini, M. 2002a “The Historical Geography of the Sevan Region in the Urartian Period” in Biscione, R., S. Hmayakyan and Neda Parmegiani (eds.) 2002: 37-60.

Salvini, M. 2002b “Una stele di Rua III Erimenahi dalla zona di Van” *SMEA* XLIV/1: 115-143.

Salvini, M. 2006a *Urartu Tarihi ve Kültürü,* (Çev. B. Aksoy). İstanbul, Arkeoloji ve Sanat Yayınları.

Salvini, M. 2006b “Le due stele di Rusa Erimenahi dal Keşiş Göl” *SMEA* XLVIII: 209-272.

Salvini, M. 2008 *Corpus dei testi Urartei*. *Le iscrizioni su pietra e roccia*. Roma, CNR.

Salvini, M. 2010 ‘Review of M. Payne, Urartian Measures of Volume’ *Ancient West & East* 9: 361-371.

Salvini, M. 2012a *Corpus dei testi urartei*. *Iscrizioni su bronzi, Argilla e ltri supporti. Nuove iscrizioni su pietra, Paleografia generale* Vol. 4. Rome, CNR.

Salvini, M. 2012b “Das Corpus der Urartäischen Inschriften” in Kroll, S., C. Gruber, Ursula Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 111-134.

Sanamyan, H. 2002 “The Fortress of Tsovinar (Odzaberd) the city of god Teisheba” in Biscione, R., S. Hmayakyan and Neda Parmegiani (eds.) 2002: 319-324.

Saraçoğlu, H. 1989 *Doğu Anadolu Bölgesi*. İstanbul, Milli Eğitim Basımevi.

Sargsyan, V. 2007 “Lake Sevan in Armenia” *Environmental Security in Harbors and Coastal Areas.* (eds.) I. Linkov, G. Kiker and R. Wenning. Springer 22: 439-449.

Sasson, J. M. 1966 “A Sketch of North Syrian Economic Relations in the Middle Bronze Age” *Journal of the Economic and Social History of the Orient* 9/3: 161-181.

Sasson, J. M. 1968 “Instances of Mobility among Mari Artisans” *Bulletin of the American Schools of Oriental Research* 190: 46-54.

Sayadyan, Y. V. 2002 “Natural specific features of the Lake Sevan and its basin” in Biscione, R., S. Hmayakyan and Neda Parmegiani (eds.) 2002: 19-36.

Seidl, U. 1974 “Torschützende Genien in Urartu” *AMI* 7: 115-120.

Seidl, U. 1979 “Die Siegelbilder” in Kleiss, W. (ed.) 1979: 137-149.

Seidl, U. 1988 “Urartu as a Bronzeworking Centre” *Bronzeworking Centres of Western Asia, c. 1000-539 BC*. (ed.) J. Curtis. London, Kegan Paul/British Museum: 169-175.

Seidl, U. 1993 “Urartäische Bauskulpturen” *Aspects of Art and Iconography: Anatolia and its Neighbors. Studies in Honor of Nimet Özgüç*. (eds) M. J. Mellink, E. Porada and T. Özgüç. Ankara, Türk Tarih Kurumu: 557-564.

Seidl, U. 1996 “Urartian Furniture” *The furniture of Western Asia, ancient and traditional: papers of the Conference held at the Institute of Archaeology, University College London, June 28 to 30, 1993*. (eds.) G. Herrmann and N. Parker. Mainz, Philipp von Zabern: 181-186.

Seidl, U. 2004 *Bronzekunst Urartus*. Mainz am Rhein, Von Zabern.

Seidl, U. 2012 “Rusa son of Erimena, Rusa son of Argisti and Rusahinili/Toprakkale” in Kroll, S., C. Gruber, U. Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 177-181.

Sevin, V. 1986 “Malatya-Elazığ-Bingöl İlleri Yüzey Araştırması, 1985” *AST* 4: 279-300.

Sevin, V. 1987 “Elazığ-Bingöl İlleri Yüzey Araştırması, 1986” *AST* 5/2: 1-44.

Sevin, V. 1988 “The Oldest Highway: between the regions of Van and Elazığ in Eastern Anatolia” *Antiquity* 62/236: 547-551.

Sevin, V. 1997 “Van/Zernaki Tepe: On the Urartian grid plan once again” *Anatolica* 23: 173-180.

Sevin, V. 1999 “The origins of the Urartians in the light of the Van/Karagündüz excavations” *AnSt* 49: 159-164.

Sevin, V. 2001 “Hakkari Stelleri: Zap Irmağı kıyısında bozkır göçebeleri” *TÜBA-AR*: 79-88.

Sevin, V. 2012 *Van Kalesi, Urartu Kral Mezarları ve Altıntepe Halk Mezarlığı*. İstanbul, Ege Yayınları.

Sevin, V. and Belli, O. 1977 “Urartian sacred area and fortress at Yeşilalıç” *AnAr* IV-V: 367-393.

Sevin, V. and Kavaklı, E. 1996 *Bir Erken Demir Çağ Nekropolü Van/Karagündüz*. İstanbul, Arkeoloji ve Sanat Yayınları.

Sevin, V. and A. Özfırat 2001 “Van-Karagündüz Excavations” *İstanbul University's Contributions to Archaeology in Turkey (1932-2000)*. (Ed.) O. Belli. İstanbul, University of İstanbul: 140-144.

Sheratt, A. and Sherratt, S. 1991 “From luxuries to commodities: the nature of Mediterranean Bronze Age Trading systems” *Bronze Age Trade in Mediterranean: Papers Presented at the*

Conference held at Rewley House, Oxford, in December 1989. (ed.) N. H. Gale. Jonsered: 351-386.

Silenzi, D. 1984 “Le Strutture Di Qal'eh Ismail Aqa” in Pecorella, P. E. and Salvini, M. (eds.) 1984: 215-220.

Silver, M. 1983 “Karl Polanyi and Markets in the Ancient Near East: The Challenge of the Evidence” *Journal of Economic History* 43/4: 795-829.

Silver, M. 1985 *Economic Structures of the Ancient Near Eas*t. London, Croom Helm.

Slattery, D. J. G. 1987 “Urartu and the Black Sea Colonies: An economic perspective” *Al-Rāfidān* 8: 1-30.

Smith, A. 1995 “Appendix A: Analysis of Materials from Horom, Armenia” *Iran* 33: 146.

Smith, A. T. 1996 *Imperial Archipelago: The making of the Urartian landscape in southern Transcaucasia.* Unpublished PhD dissertation, University of Arizona.

Smith, A. T. 2000 “Rendering the Political Aesthetic: Political Legitimacy in Urartian Representations of the Built Environment” *Journal of Anthropological Archaeology* 19/2: 131-163.

Smith, A. T. 2005 *The Political Landscape: Constellations of Authority in Early Complex Polities*. Berkley, University of California Press.

Smith, A. T. 2009a “Archaeology in Armenia: An Introduction to Project Aragats” in Smith, Adam T., Ruben S. Badalyan and Pavel Avetisyan (eds.) 2009: 1-9.

Smith, A. T. 2009b “Traditions of Archaeological Research in Armenia” in Smith, Adam T., Ruben S. Badalyan and Pavel Avetisyan (eds.) 2009: 9-20.

Smith, A. T. 1999c “The Making of an Urartian Landscape in Southern Transcaucasia: A Study of Political Architectonics” *American Journal of Archaeology* 103: 45-71.

Smith, A. T., Ruben S. Badalyan and Pavel Avetisyan 2009 (ed.) *The Archaeology and Geography of Ancient Transcaucasian Societies Vol. 1 The Foundations of Research and Regional Survey in the Tsaghkahovit Plain, Armenia*. University of Chicago, Oriental Institute.

Smith, A. T. and Thompson, T. T. 2004 “Urartu and the Southern Caucasian Tradition” *A View from the Highlands: Archaeological Studies in Honour of Charles Burney*. Ancient Near Eastern Studies 12, (ed.) A. Sagona. Leuven, Peeters: 557-580.

Smith, S. 1942 “The Greek trade at Al-mina” *The Antquaries Journal* 22/2: 87-112.

Solmaz, T. and Dönmez, E. O. 2013 “Archaeobotanical studies at the Urartian site of Ayanis in Van province, eastern Turkey” *Turkish Journal of Botany* 37: 1-15.

Sorokin, V. S. 1952 “Archeologiceskie dannye dlja charateristiki social'no-èkonomiceskogo stroja Urartu” *VDI* 2: 127-132.

Speakman, R. J., E. C. Stone, M. D. Glascock, A. Çilingiroğlu, P. Zimansky and H. Neff 2004 “Neutron activation analysis of Urartian pottery from eastern Anatolia” *Journal of Radioanalytical and Nuclear Chemistry* 262/1: 119-127.

Stirling, P. 1965 *The Nature of Human Society: Turkish village*. Weidenfeld and Nicolson.

Stone, E. 2012 “Social differentiation within Urartian settlements” in Kroll, S., C. Gruber, U. Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 101-113.

Stone, E. C. and Zimansky, P. E. 2009 “Settlements in the Vicinity" (ālāni ša limēti) of an Urartian Fortress” in Sağlamtimur, H., E. Abay, Z. Derine, A.Ü. Erdem, A. Batmaz, F. Dedeoğlu, M. Erdalkıran, M.B. Baştürk and E. Konakçı (eds.) 2009: 633-640.

Taffet, A. 1999 “A tentative reconstruction of the Urartian calendar of festivals” *AnAr* 24: 369-381.

Tanabe, K., A. Hori, T. Hayashi, S. Miyashita, K. Ishida 1982 “Studies in Urartian Bronze Objects from Japanese Collections (1)” *Bulletin of the Ancient Orient Museum* (Tokyo) 4.

Tarhan, M. T. 1983 “The Structure of the Urartian State” *AnAr* IX: 295-310.

Tarhan, M. T. 1986 “Urartu Devleti’nin Yapısal Karakteri” *IX Türk Tarih Kongresi 21-25 Eylül 1981*, Ankara, Türk Tarih Kurumu: 285-301.

Tarhan, M. T. 1996 “Sevgili Hocamız Prof. Dr. Afif Erzen” *AnAr* 14: 1-19.

Tarhan, M. T. and Sevin, V. 1975 “Urartu tapınak kapılarıyla anıtsal kaya nişleri arasındaki bağıntı/ the relation between Urartian temple gates and monumental rock niches” *Belleten* 39/155: 389-412.

Tarhan, M. T. and Sevin, V. 1976-77 “Van Bölgesinde Urartu Araştırmaları (I): Askerî ve Sivil Mimariye Ait Yeni Gözlemler” *AnAr* 4-5: 273-345.

Tarhan, M. T. and Sevin, V. 1990 “Van Kalesi ve Eski Van Şehri Kazıları 1988” *KST* XI/1: 355-375.

Tarhan, M. T. and Sevin, V. 1991 “Van Kalesi ve Eski Van Şehri Kazıları, 1989” *KST* XII/II: 429-456.

Taşyürek, O. A. 1978 “Giyimli (Hırkanis) Adak Levhalarından Örnekler -Examples of Offering Plaques from Giyimli (Hırkanis)” *Belleten* 42: 201-238.

Taşyürek, O. A. 1980 “Some Iranian Elements on Urartian Bronze Offering Plaques from Giyimli” *SMEA* 22: 201-214.

Thureau-Dangin, F. 1912 *Une Relation de la Huitieme Champagne de Sargon (714 av. J.-C.)*. Paris, Librairie Paul Geuthner.

Trigger, B. G. 2008 *A History of Archaeological Thought*. Cambridge, Cambridge University Press.

Tsetskhladze, G. R. 1992 “Greek Colonization of the Eastern Black Sea Littoral (Colchis)” *Dialogues D'histoire Ancienne* 18/2: 223-258

Tumanjan, S. A. 1944 “Kul'turnye rastenija urartskogo perioda v Armjanskoj SSR” *Izvestija Akademii Nauk Armjanskoj SSR, Biologiceskaja Serija* 1-2: 73-82.

Tunçdilek, N. 1974 “Types of rural settlement and their characteristics” *Turkey: Geographic and Social Perspectives.* (ed.) P. Benedict, E. Tümertekin and F. Mansur. Leiden, Brill: 48-70.

Turner, G. 1970 “Tell Nebi Yūnus: The ekal māšarti of Nineveh” *Iraq* 32/1: 68-85.

van Loon, M. N. 1966 *Urartian Art: Its Distinctive Traits in the Light of New Excavations*. İstanbul, Nederlands Historisch-Archaeologisch Instituut te Istanbul.

van Loon, M. N. 1974 “The Euphrates Mentioned by Sarduri II of Urartu” *Anatolian Studies Presented to H. G. Güterbock on the Occasion of his 65th Birthday*. (eds.) K. Bittel, P.H. J. H. ten Cate and E. Reiner. İstanbul, Nederlands Historisch-Archaeologisch Instituut: 187-194.

van Loon, M. N. 1975 “The inscription of Ishpuini and Meinua at Qalatgah, Iran” *JNES* 34: 201-207.

van Loon, M. N. 1977 “The Place of Urartu in First-Millennium BC Trade” *Iraq* 39/2: 229-231.

van Loon, M. N. 1980 “The other Early Iron Age finds” *Korucutepe: Final Report on the Excavations of the Universities of Chicago, California (Los Angeles) and Amsterdam in the Keban Reservoir, Eastern Anatolia 1968-1970*. (ed.) M. N. van Loon. Amsterdam, North-Holland Publishing: 177-180.

van Zeist, W. and Bakker-Heeres, J.A. H. 1975 “Prehistoric and early historic plant husbandry in the Altınova Plain, southeastern Turkey” *Korucutepe: Final Report on the Excavations of the Universities of Chicago, California (Los Angeles) and Amsterdam in the Keban Reservoir, Eastern Anatolia 1968-1970*. (ed.) M. N. van Loon. Amsterdam, North-Holland Publishing: 222-257.

Veenhof, K. R. 1972 *Aspects of Old Assyrian Trade and its Terminology*. Studa et Documenta Ad Iura Orientis Antiqui Pertinentia, Vol. X, Leiden, Brill.

Wagstaff, M. 1973 “Physical Geography and Settlements” *AnSt* 23: 197-215.

Wartke, R.-B. 1985 “Die Berliner Kesselattasche VA 2988” *Altorientalische Forschungen* 12: 87-100.

Wartke, R.-B. 1990 *Toprakkale Untersuchungen zu den Metallobjekten im Vorderasiatischen Museum zu Berlin*. Berlin, Akademie-Verlag.

Wartke, R.-B. 1991 “Production of Iron Artifacts” in Merhav, R. (ed.) 1991a: 322-331.

Wattenmaker, P. 1987 “Town and Village Economies in an Early State Society” *Paléorient* 13/2: 113-122

Wattenmaker, P. and Stein, G. 1986 “Early Pastoral Production in Southeastern Anatolia: Faunal Remains from Kurban Höyük and Gritille Höyük” *Anatolica* 13: 90-96.

Weeden, M. 2010 “Tuwati and Wasusarma: Imitating the behaviour of Assyria” *Iraq* LXXII: 39-62.

Wick, L., G. Lemcke, and M. Sturm 2003 “Evidence of Lateglacial and Holocene climatic change and human impact in eastern Anatolia: high-resolution pollen, charcoal, isotopic and geochemical records from the laminated sediments of Lake Van, Turkey” *Holocene* 13/5: 665-675.

Wild, J. P. 1988 *Textiles in Archaeology*. Aylesbury, Osprey.

Wild, J. P. 2003 “Anatolia, Mesopotamia and the Levant in the Bronze Age, c. 3500-1100 BC” *The Cambridge History of Western Textiles*. (ed.) D. Jenkins. Cambridge, Cambridge University Press: 43-47.

Wilhelm, G. 1989 *The Hurrians*. Warminster, Aris & Phillips.

Wilson, J. V. K. 1962 “The Kurba'il Statue of Shalmaneser III” *Iraq* 24/2: 90-115.

Wilson, J. V. K. 1972 *The Nimrud Wine Lists A study of men and administration at the Assyrian Capital in the Eighth Century BC*. London, British School of Archaeology in Iraq.

Winfield, D. 1977 “The Northern Routes across Anatolia” *AnSt* 27: 151-166.

Winter, I. J. 1983 “Carchemish ša kišad puratti” *AnSt* 33: 177-197.

Wiseman, D. J. 1968 “The Tell al Rimah Tablets, 1966” *Iraq* 30/2: 175-205.

Wright, E. M. 1943 “The Eighth Campaign of Sargon II of Assyria (714 BC)” *JNES* 2/3: 173-186.

Yakar, J. 2000 *Ethnoarchaeology of Anatolia: Rural Socio-Economy in the Bronze and Iron Ages*. Tel Aviv, Tel Aviv University Press.

Yalçın, Ü., O. Belli and R. Maddin 1995 “Van-Yukarı Anzaf Kalesinde Bulunan Metal Eserler Üzerine Arkeometallurjik Araştırmaları” *Arkeometri Sonuçları Toplantısı* 10: 39-53.

Yalçın, Ü. and Özbal, H. 2009 “Ein Neues Zinnvorkommen in Kayseri-Hisarcık, Zentralanatolien: Ein Vorbericht” *TÜBA-AR* 12: 117-122.

Yalçın-Heckmann, L. 1993 “Sheep and money: pastoral production at the frontiers” *Culture and Economy: Changes in Turkish Villages*. (ed.) P. Stirling. Huntingdon, Eothen: 17-26.

Yamada, S. 2000 *The construction of the Assyrian Empire: A historical study of the inscriptions of Shalmanesar III relating to his campaigns in the West*. Leiden & Boston, Brill.

Yener, K. Aslihan, Hadi Özbal, Ergun Kaptan, A. Necip Pehlivan and Martha Goodway 1989 “Kestel: An Early Bronze Age Source of Tin Ore in the Taurus Mountains, Turkey” *Science* 244/4901: 200-203.

Yener, K. A. and Vandiver, P. B. 1993 “Tin processing at Göltepe, an Early Bronze Age site in Anatolia” *AJA* 97/2: 207-238.

Yıldırım, R. 1988 “Burma Geçit Urartu miğferleri” *Fırat Üniversitesi Dergisi* 2/2: 217-228.

Zeder, M. A. 1988 “Understanding urban process through the study of specialized subsistence economy in the Near East” *Journal of Anthropological Archaeology* 71: 1-55.

Zeder, M. A. 2001 “A Metrical Analysis of a Collection of Modern Goats (Capra hircus aegargus and C. h. hircus) from Iran and Iraq: Implications for the Study of Caprine Domestication” *Journal of Archaeological Science* 281: 61-79.

Zeder, M. A. 2003 “Food Provisioning in Urban Societies: A View from Northern Mesopotamia” *The Social Construction of Ancient Cities*. (ed.) M. L. Smith. Washington, Smithsonian Institution Press: 156-183.

Zimansky, P. 1979 “Bones and Bullae: An Enigma from Bastam, Iran” *Archaeology* 32/6: 53-55.

Zimansky, P. 1985 *Ecology and Empire: the structure of the Urartian State*. Chicago, Oriental Institute Press.

Zimansky, P. 1988 “MB2/OB5 Excavations and the Problem of Urartian Bone Rooms” in Kleiss W. (ed.) 1988: 107-124.

Zimansky, P. 1990 “Urartian Geography and Sargon's Eighth Campaign” *JNES* 49: 1-21.

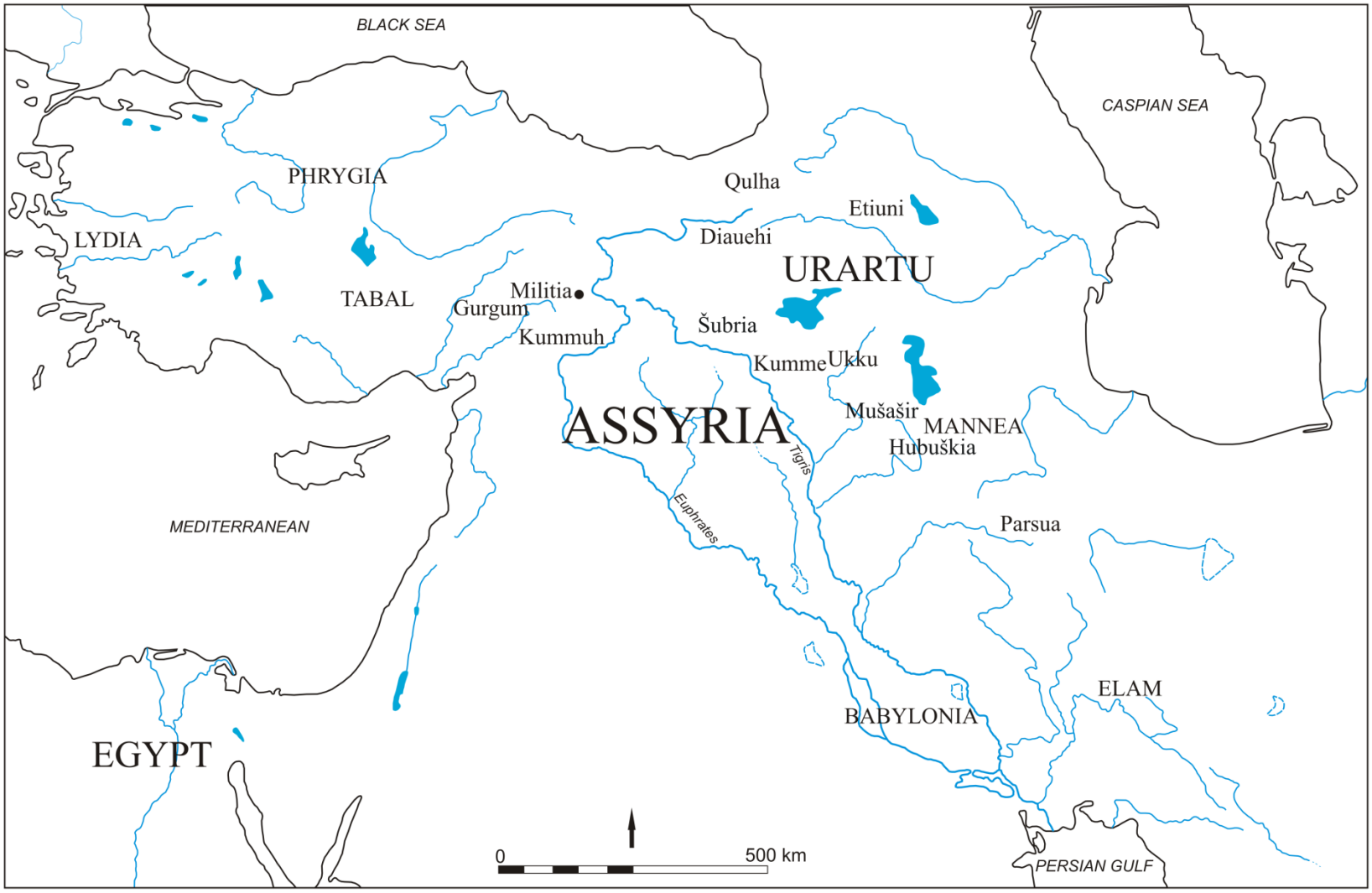
Zimansky, P. E. 1995 “Xenophon and the Urartian Legacy” *Pallas Dans les pas des dix-mille*. (ed.) P. Briant. Toulouse, Press Universitaires du Mirail 43: 255-268.

Zimansky, P. E. 1998 *Ancient Ararat: A Handbook of Urartian Studies*. New York, Caravan Books.

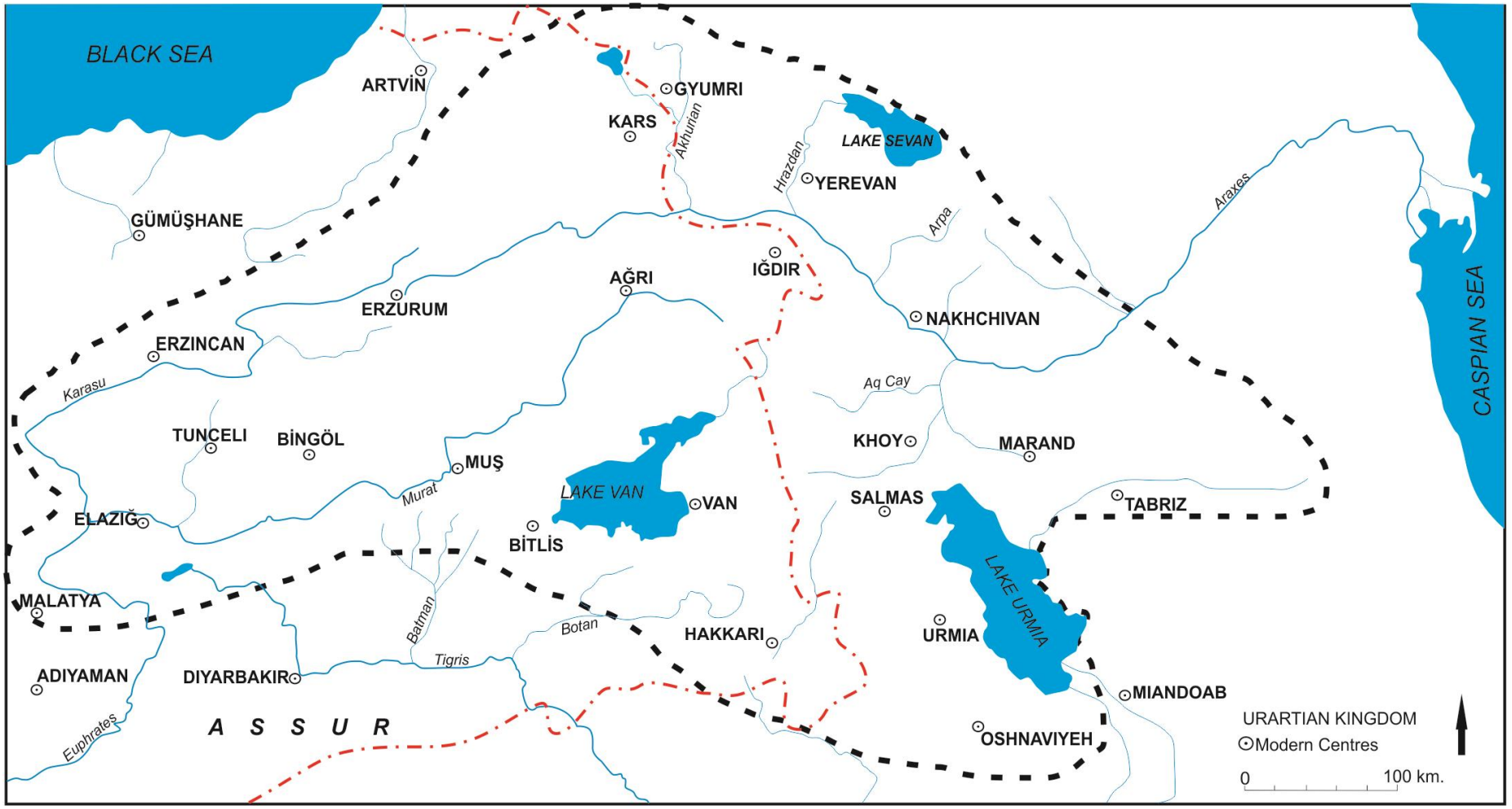
Zimansky, P. 2012 “Urartu as Empire: cultural integration in the kingdom of Van” in Kroll, S., C. Gruber, U. Hellwag, M. Roaf and P. Zimansky (eds.) 2012: 101-110.

Xenophon 2001 *Anabasis*: with an English translation by C. L. Browson, Revised by John Dilley, The LOEB Classical Library. London, Harvard University Press.

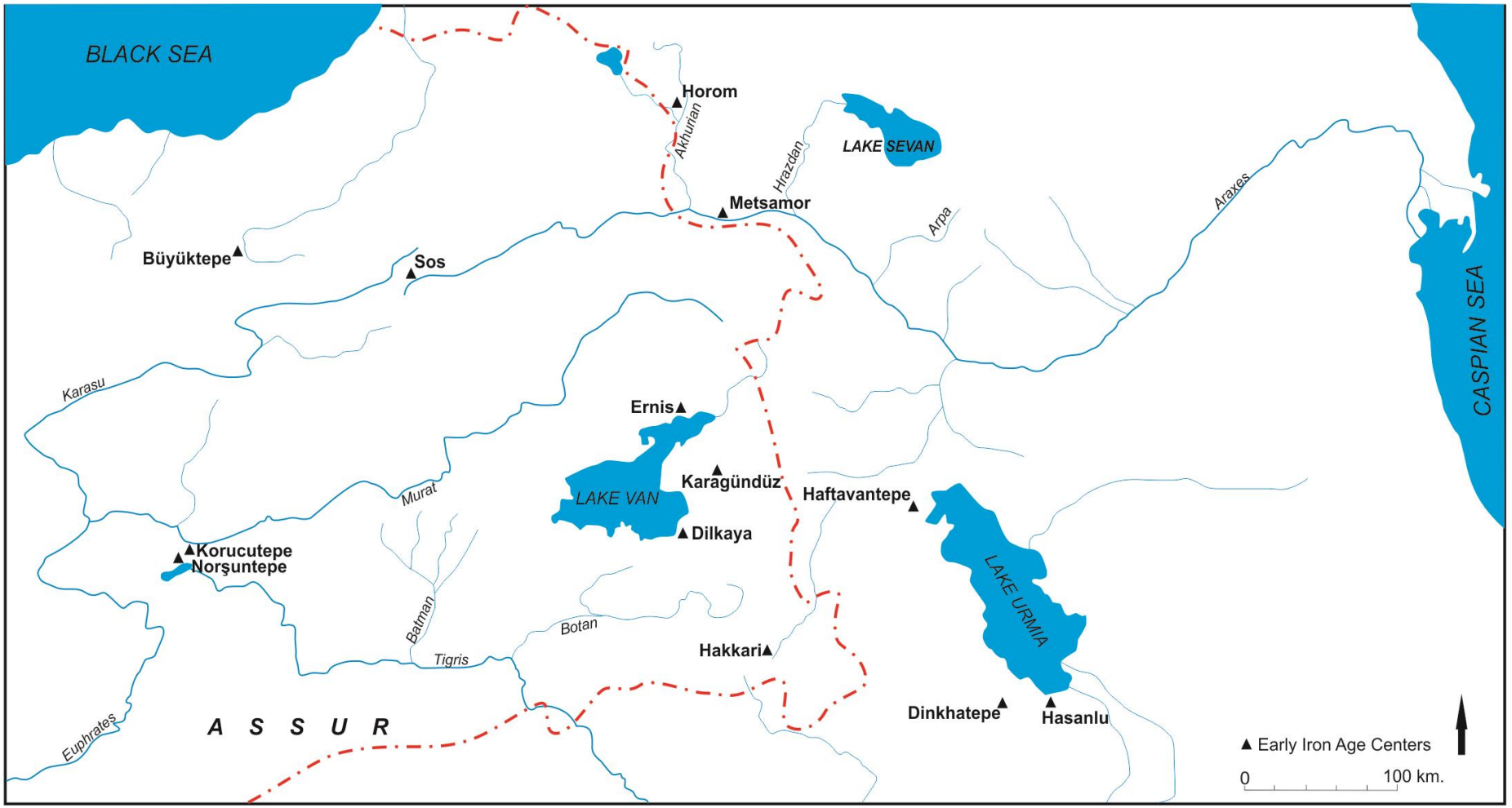
MAPS


BLACK SEA
CASPIAN SEA
PHRYGIA
LYDIA
TABAL
Militia
Gurgum
Kummuh
Qulha
Etiuni
Diauehi
URARTU
Šubria
Kumme
Ukku
Mušašir
MANNEA
Hubuškia
ASSYRIA
Tigris
Euphrates
Parsua
MEDITERRANEAN
ELAM
BABYLONIA
EGYPT
0
500 km
PERSIAN GULF

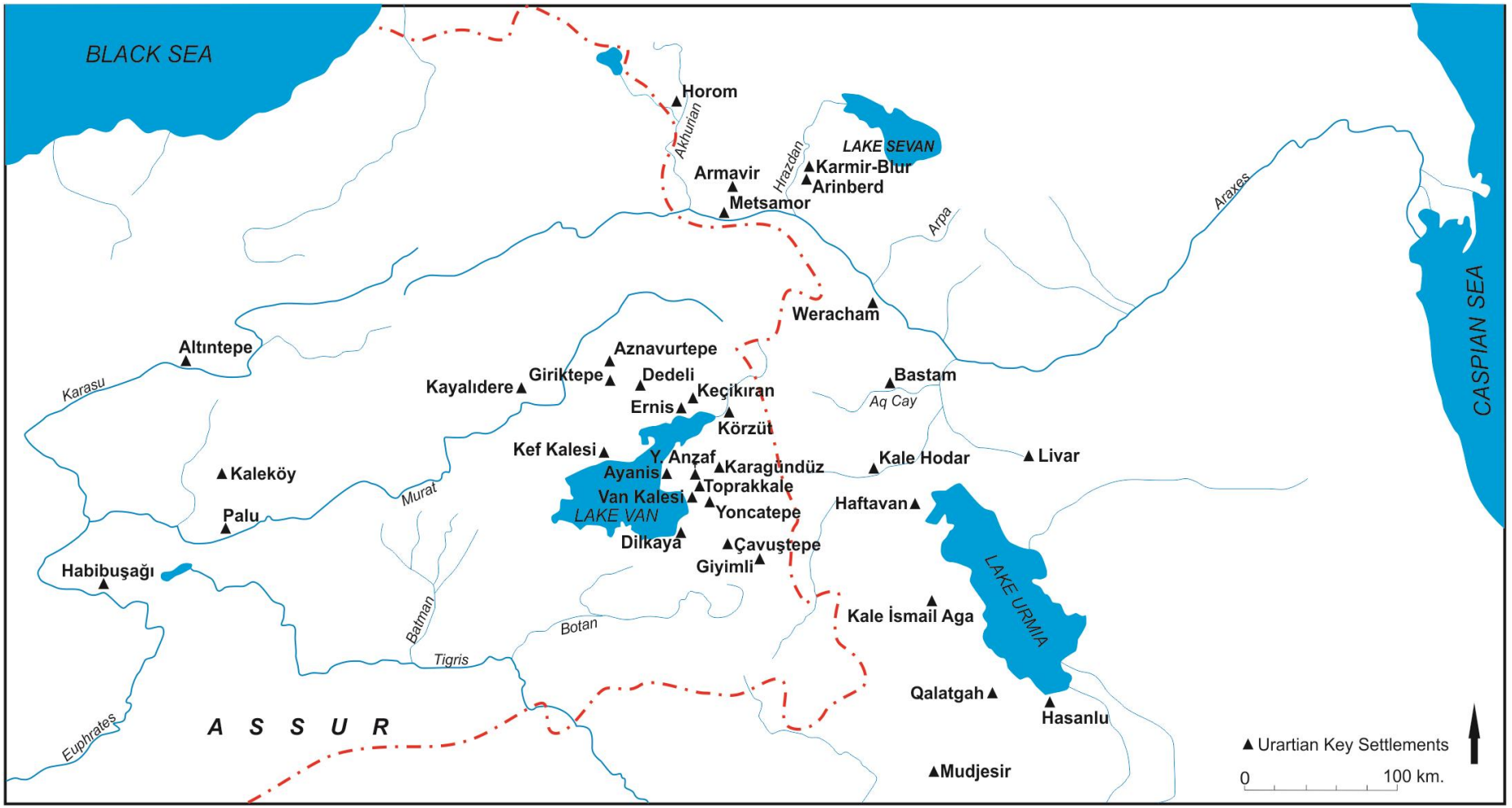
Map 1.


BLACK SEA
ARTVİN
GYUMRI
KARS
Akhurian
LAKE SEVAN
Hrazdan
YEREVAN
Araxes
Arpa
GÜMÜŞHANE
IĞDIR
AĞRI
ERZURUM
NAKHCHIVAN
CASPIAN SEA
ERZINCAN
Karasu
Aq Cay
TUNCELI
BİNGÖL
KHOY
MARAND
MUŞ
Murat
LAKE VAN
VAN
SALMAS
TABRIZ
ELAZIĞ
BİTLİS
LAKE URMIA
MALATYA
Batman
Botan
HAKKARI
URMIA
Tigris
ADIYAMAN
DIYARBAKIR
MIANDOAB
Euphrates
A S S U R
OSHNAVIYEH
URARTIAN KINGDOM
Modern Centres
0
100 km.

Map 2.


BLACK SEA
Horom
Akhurian
Hrazdan
LAKE SEVAN
Metsamor
Arpa
Araxes
CASPIAN SEA
Büyüktepe
Sos
Karasu
Ernis
Karagündüz
Haftavantepe
LAKE VAN
Dilkaya
Murat
Korucutepe
Norşuntepe
Batman
Botan
Tigris
Hakkari
LAKE URMIA
Dinkhatepe
Hasanlu
Euphrates
A S S U R
Early Iron Age Centers
0
100 km.

Map 3.


BLACK SEA
CASPIAN SEA
Horom
Akhurian
Armavir
Metsamor
Hrazdan
LAKE SEVAN
Karmir-Blur
Arinberd
Araxes
Arpa
Werachamn
Altıntepe
Karasu
Aznavurtepe
Giriktepe
Dedeli
Kayalıdere
Keçikıran
Ernis
Körzüt
Bastam
Aq Cay
Kef Kalesi
Y. Anzaf
Ayanis
Karagündüz
Toprakkale
Van Kalesi
LAKE VAN
Yoncatepe
Dilkaya
Çavuştepe
Giyimli
Kaleköy
Palu
Murat
Habibuşağı
Batman
Botan
Tigris
Euphrates
A S S U R
Kale Hodar
Livar
Haftavan
LAKE URMIA
Kale İsmail Aga
Qalatgah
Hasanlu
Mudjesir
▲ Urartian Key Settlements
0
100 km.

Map 4.

FIGURES

Figure 1.

Figure 2.

Figure 3.

Figure 4.

Figure 5.

Figure 6.

Figure 7.

Figure 8.

Figure 9.

Figure 10.

Figure 11.

Figure 12.

Figure 13.

Figure 14.

Figure 15.

Figure 16.

Figure 17.

Figure 18.

Figure 19.

Figure 20.

Figure 21.

Figure 22.

Figure 23.

Figure 24.

Figure 25.

Figure 26.

Figure 27.

Figure 28.

Figure 29.

Figure 30.

Figure 31.

Figure 32.

a

b

Figure 33.

Figure 34.

Figure 35.

Figure 36.

Figure 37.

Figure 38.

Figure 39.

Figure 40.

Figure 41.

Figure 42.

Figure 43.

Figure 44.

Figure 45.

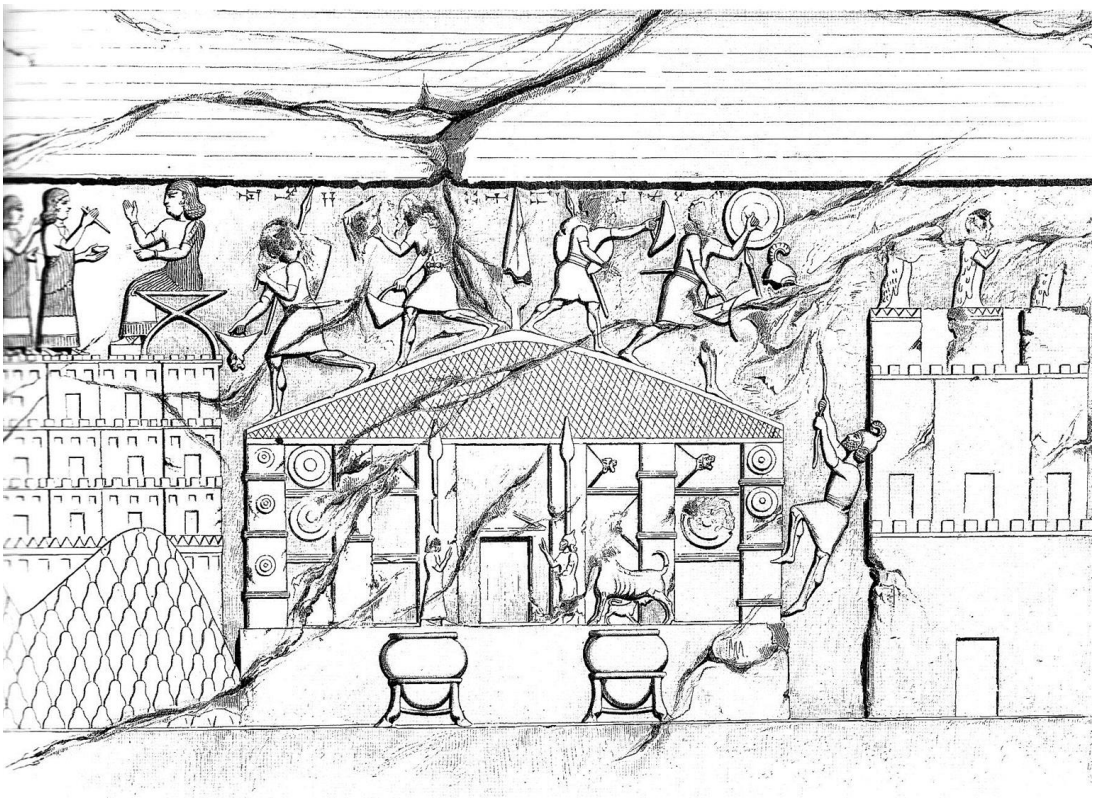


Figure 46.

Figure 47.

Figure 48.

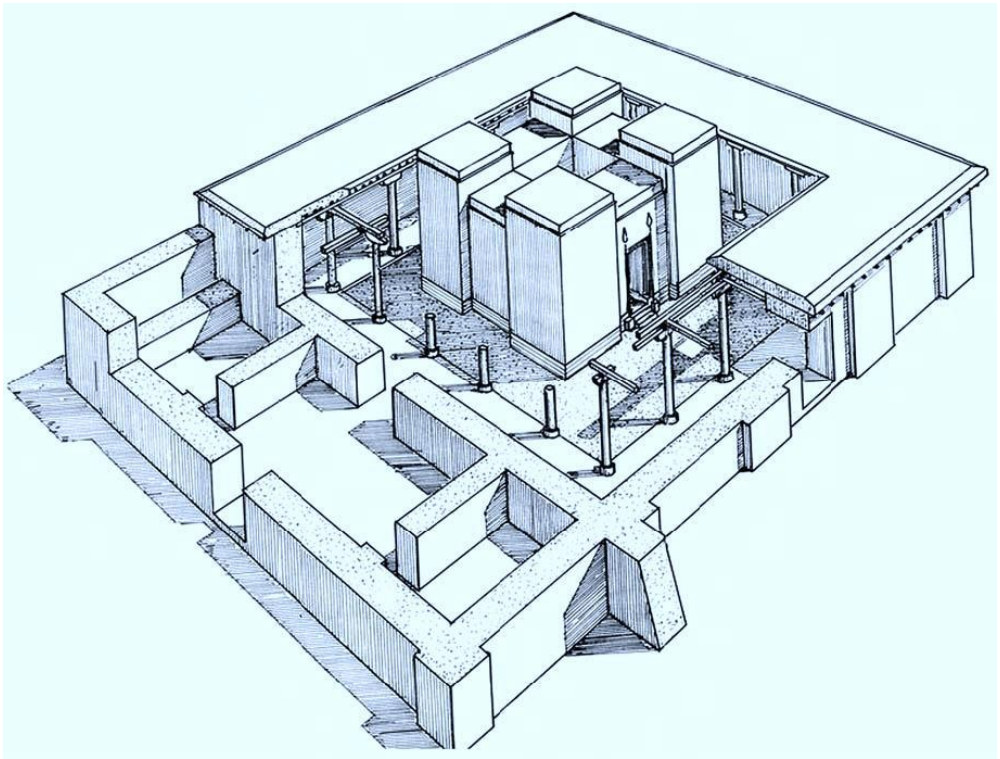


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Figure 50.

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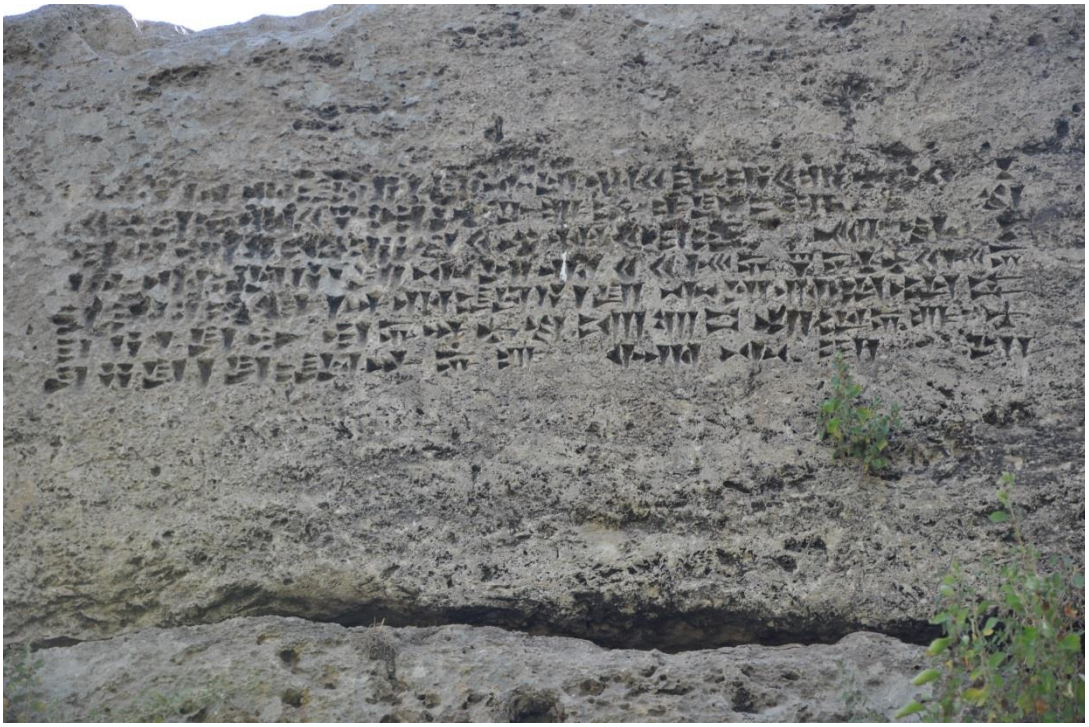

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Figure 53.

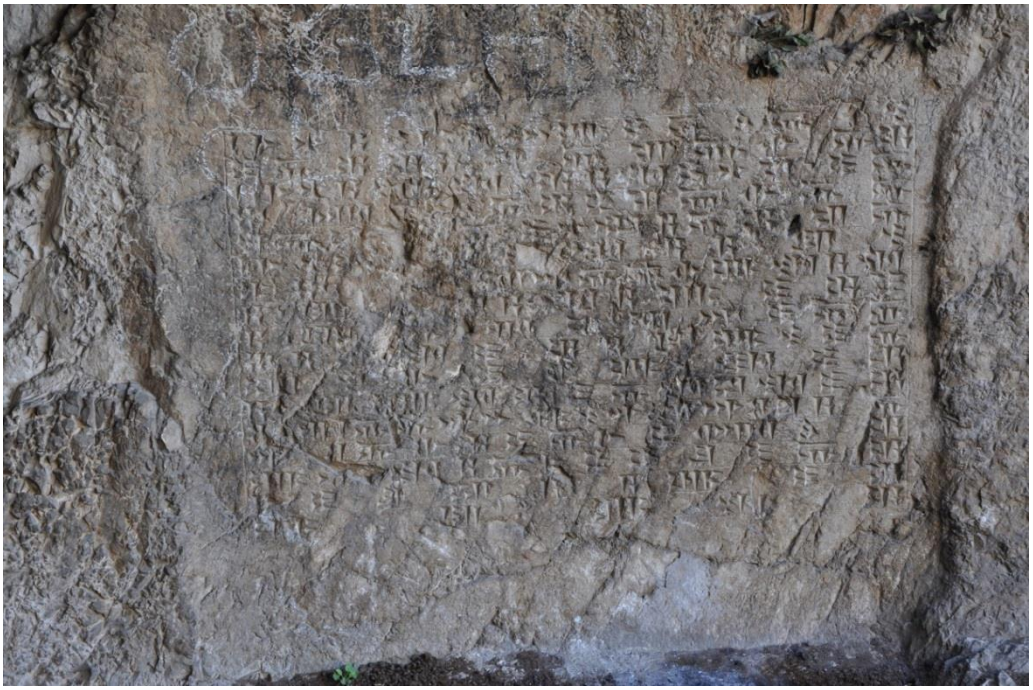

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Figure 55.

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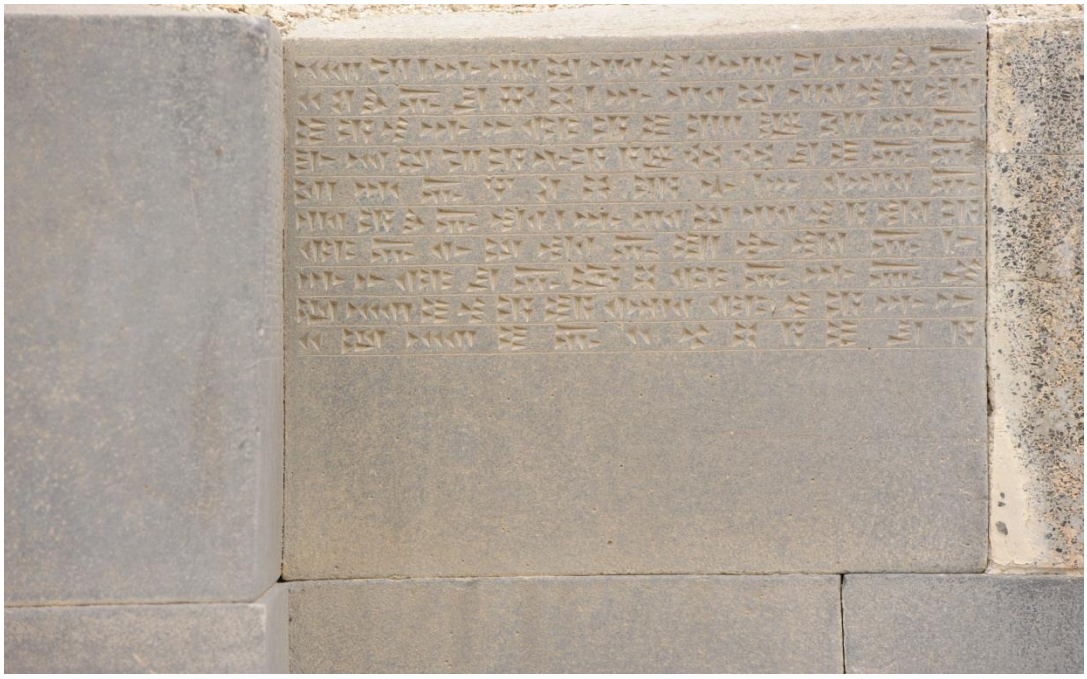

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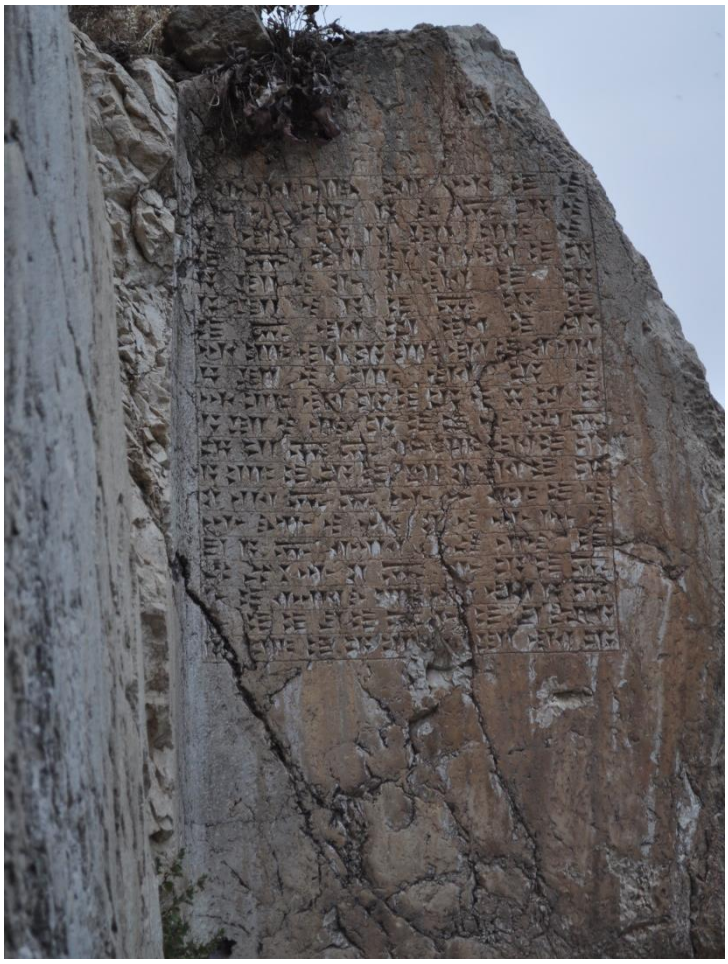

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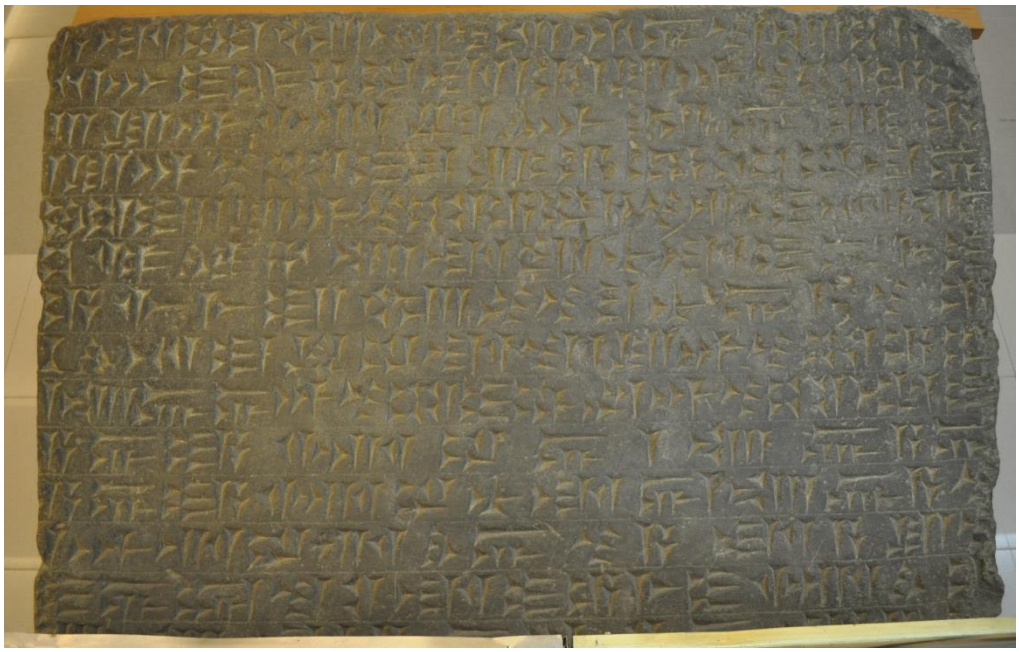

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Figure 60.

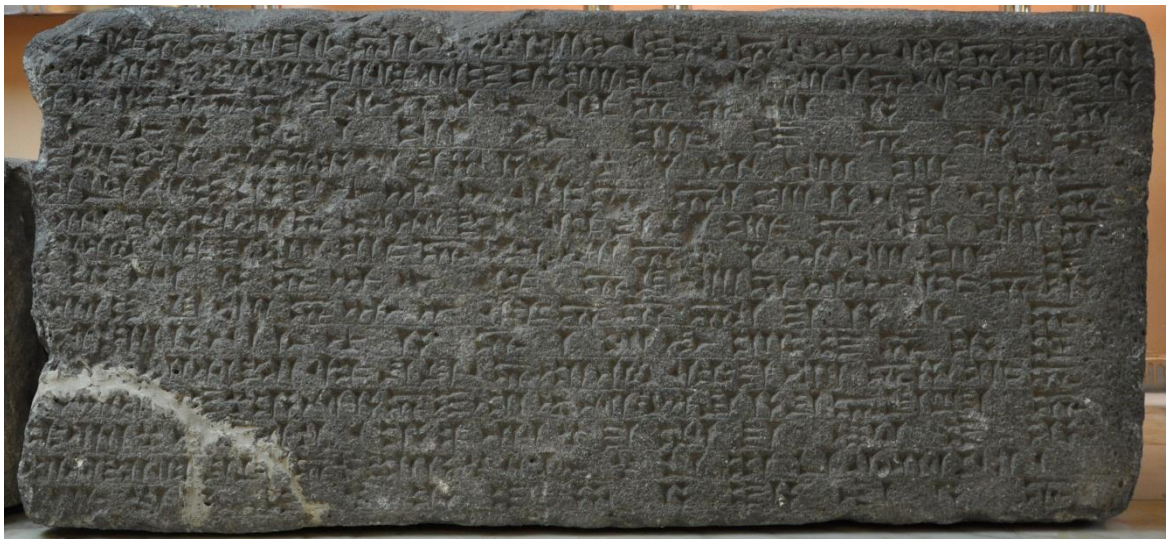


Figure 61.

a

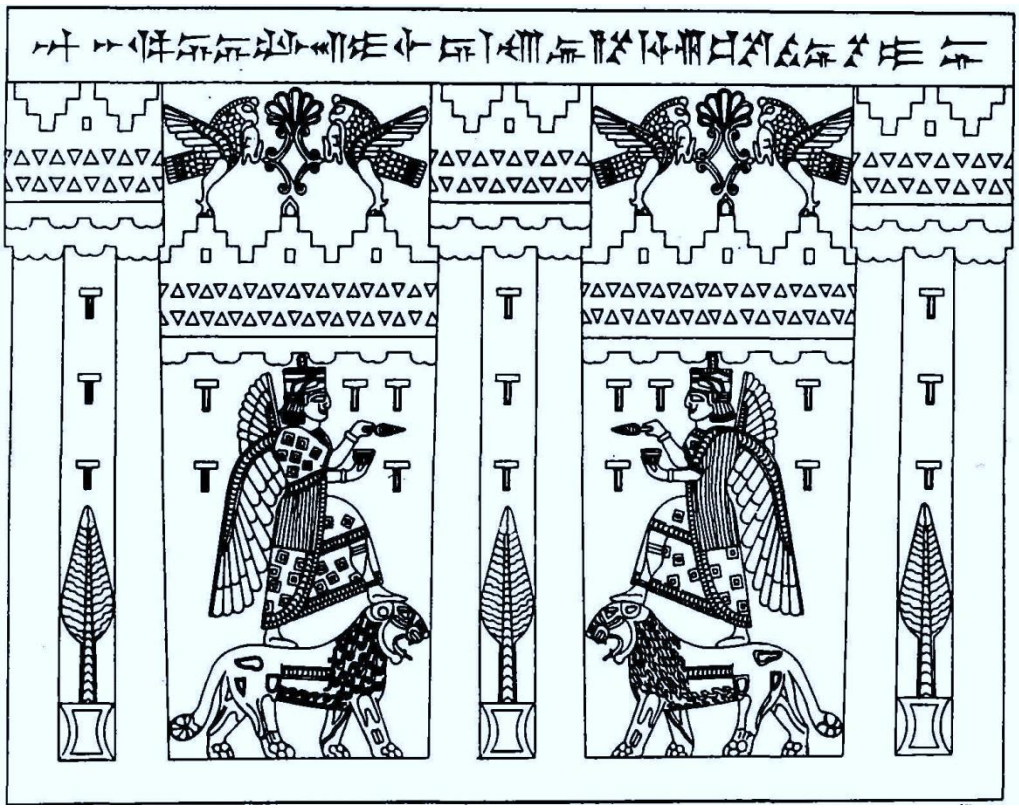
b

Figure 62.

Figure 63.

Figure 64.

a



b

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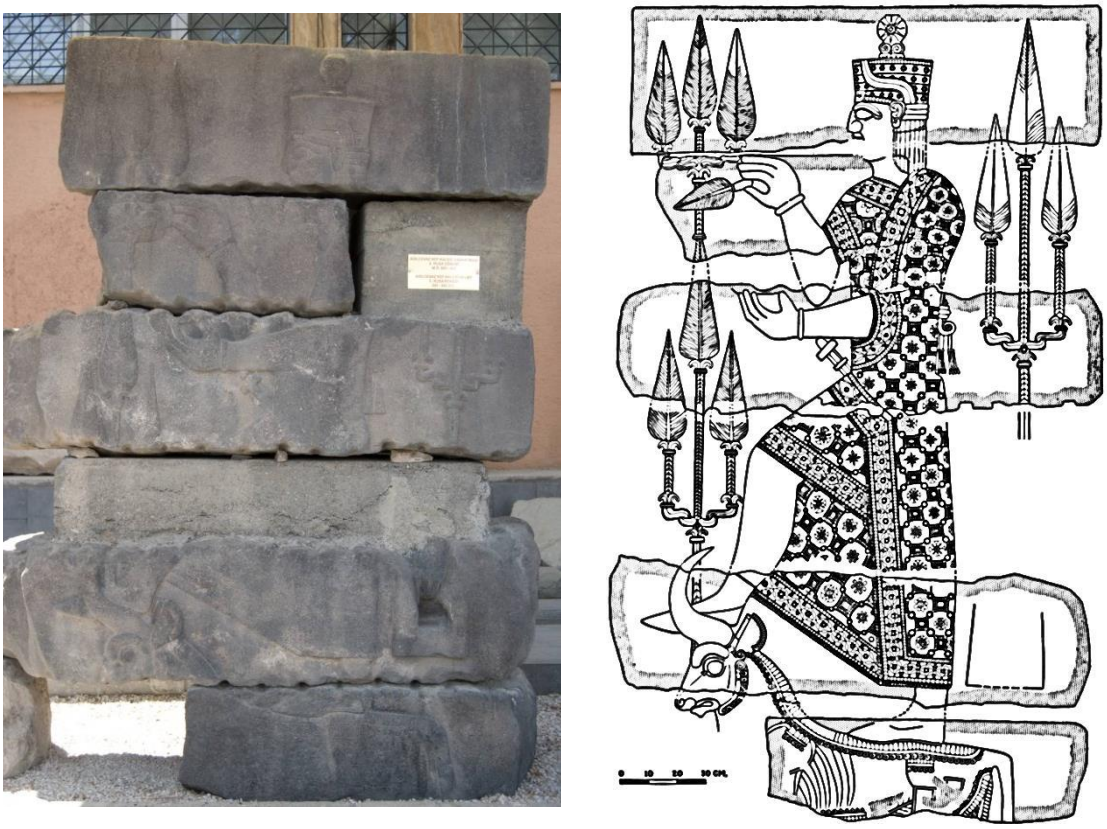


a b

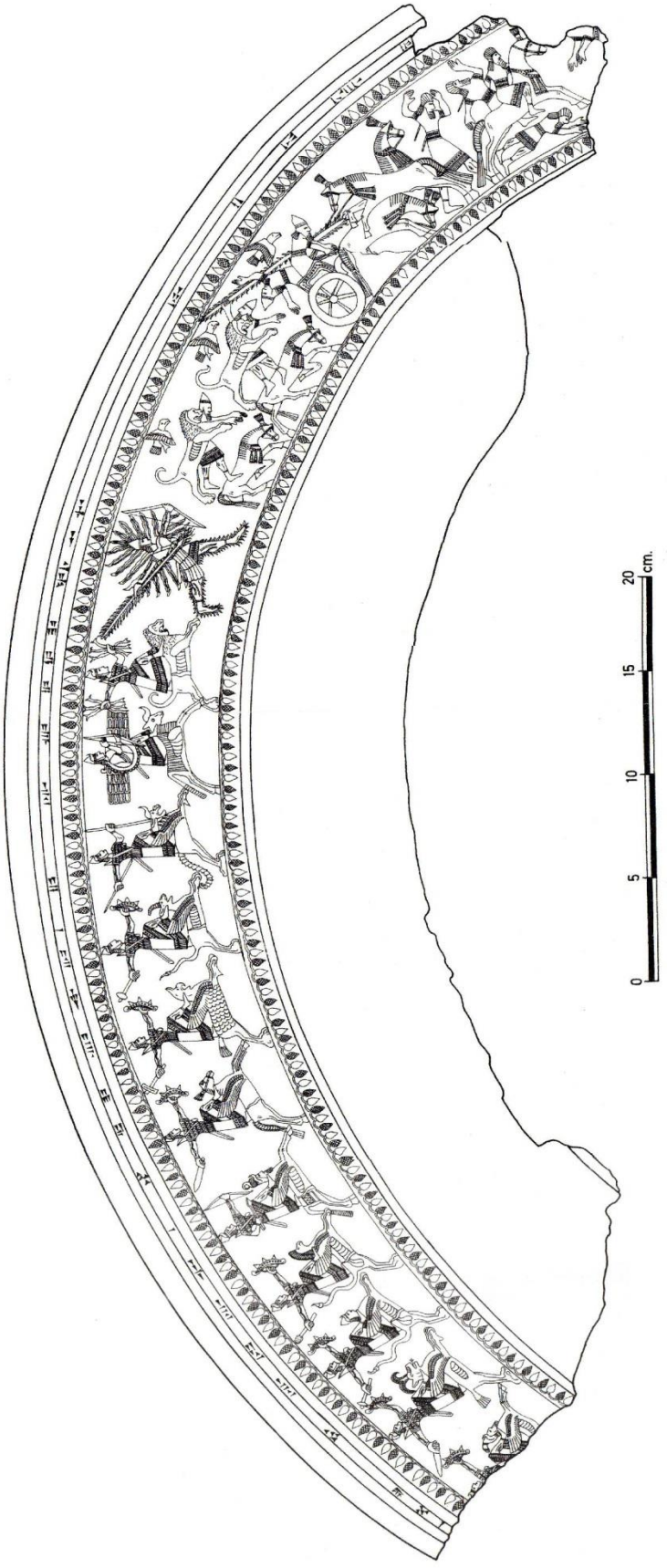
Figure 66.

Figure 67.

Figure 68.

a b

Figure 69.



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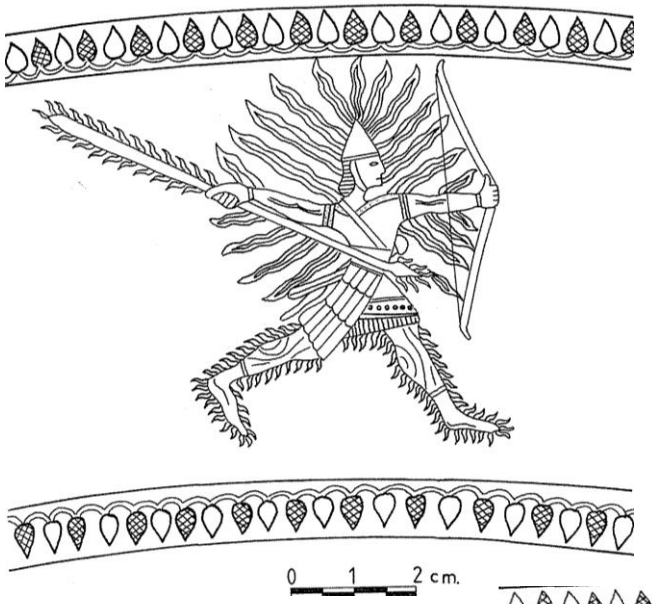
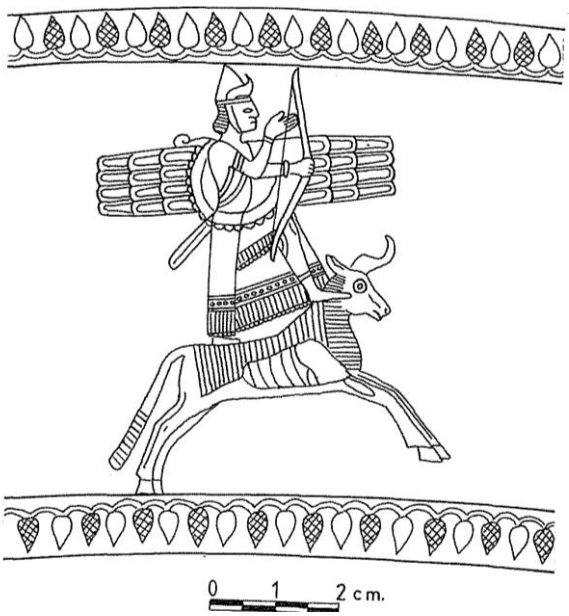


a

b



c

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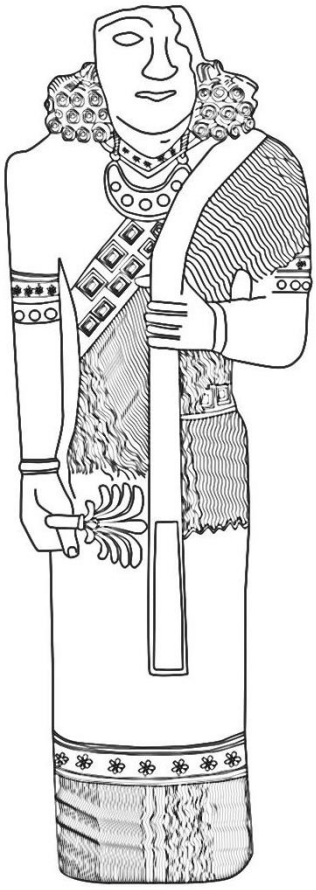

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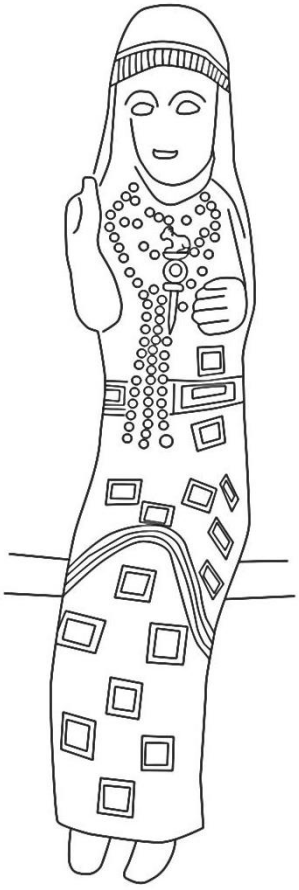

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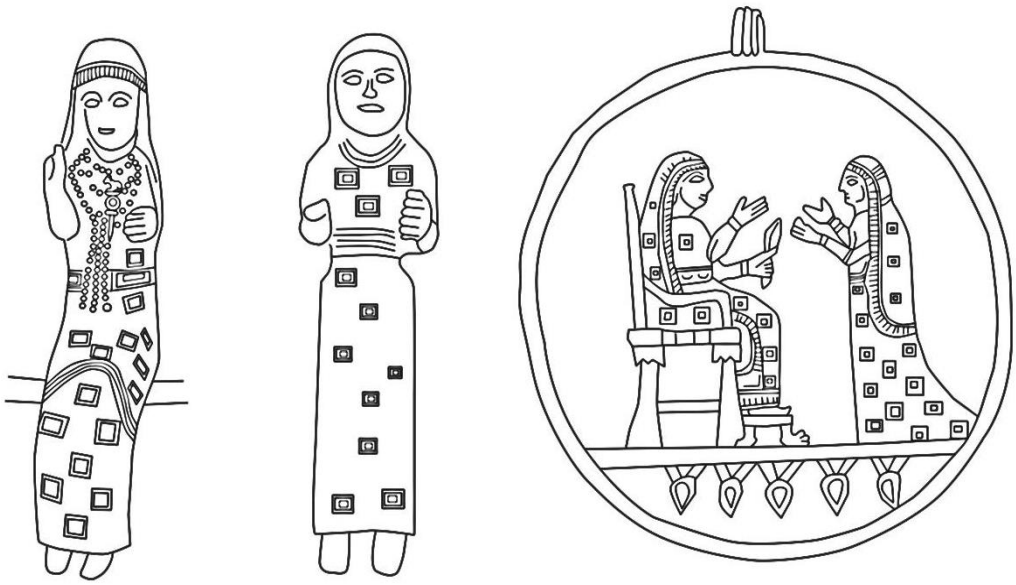

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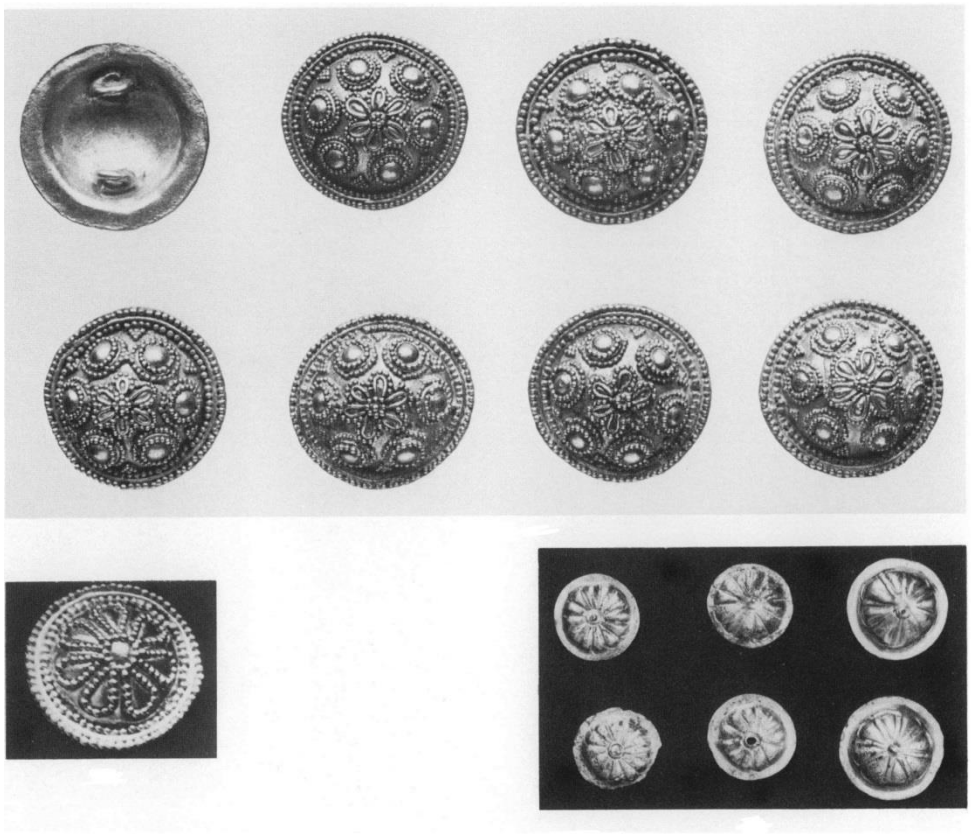

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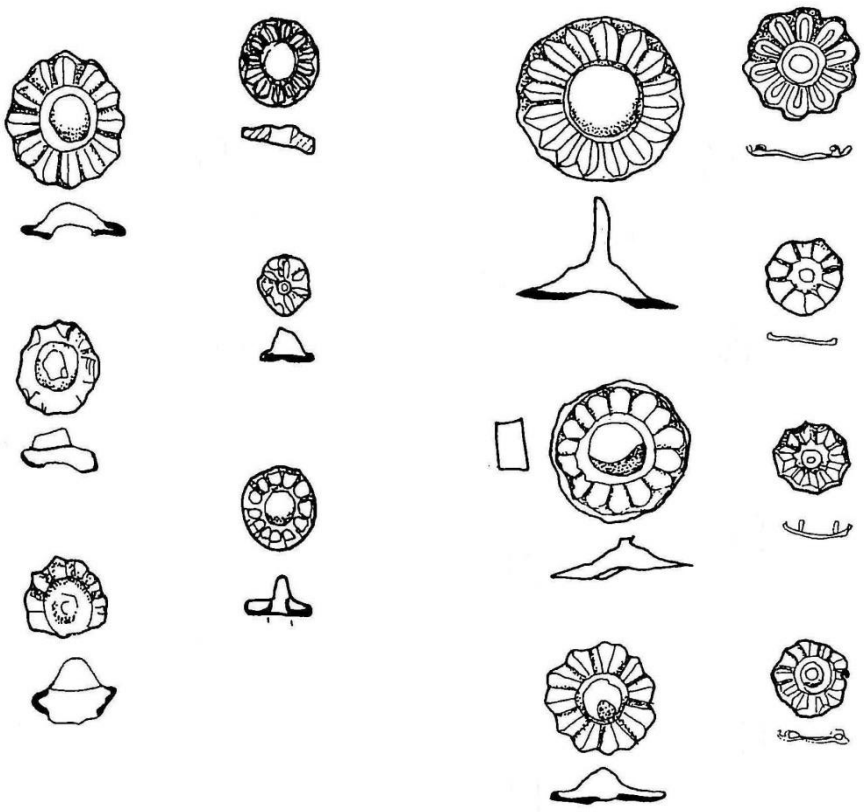

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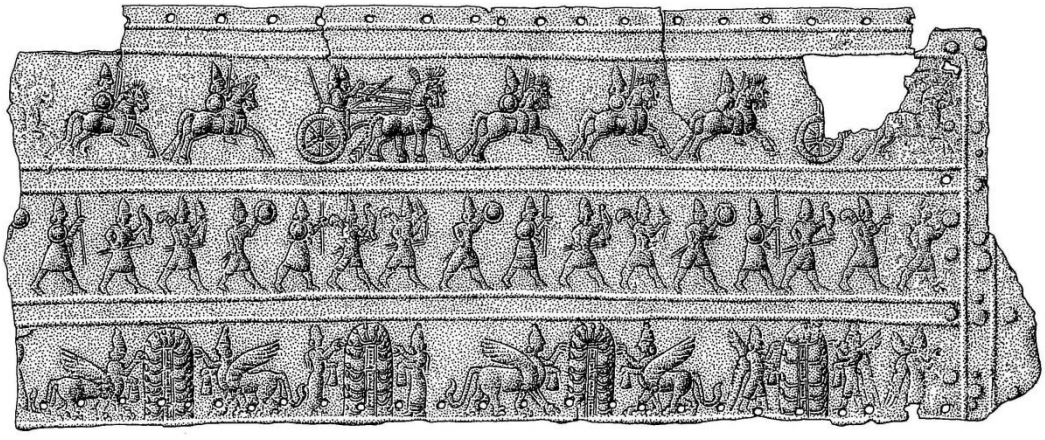

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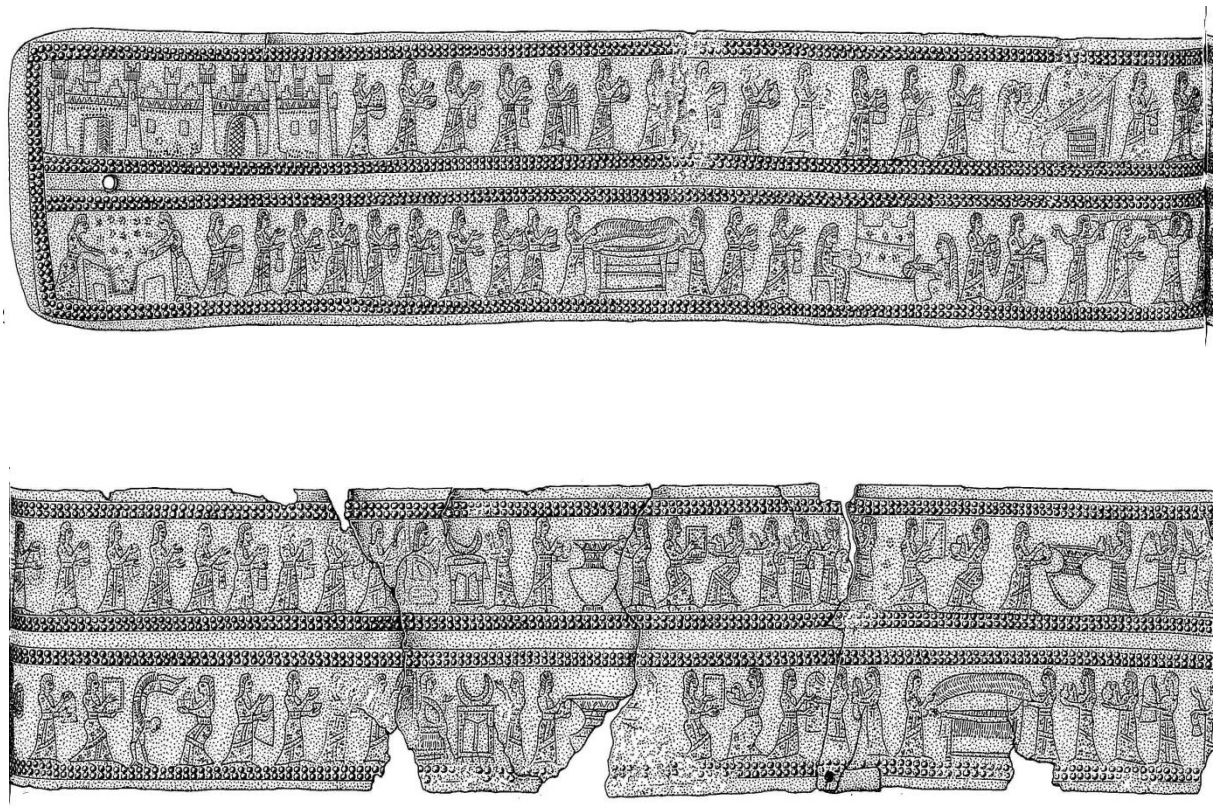
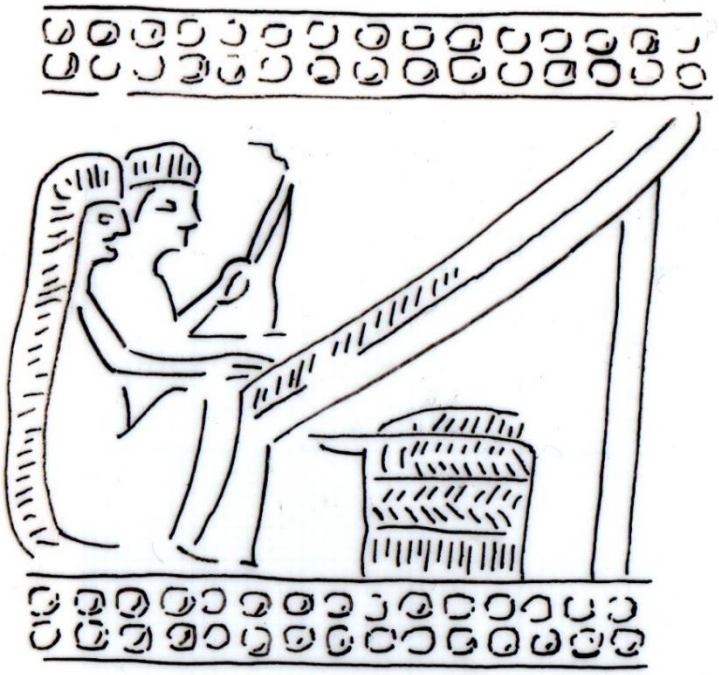


a



b

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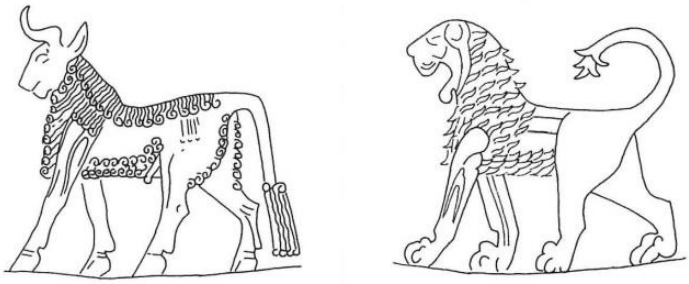
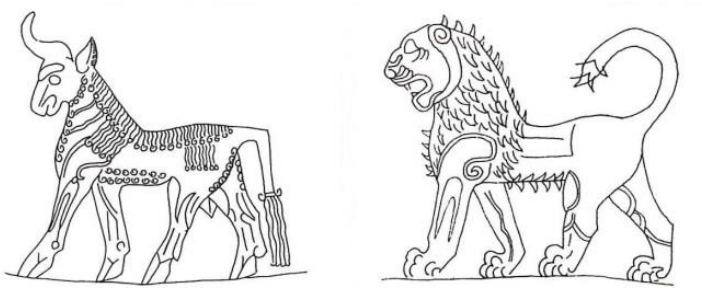
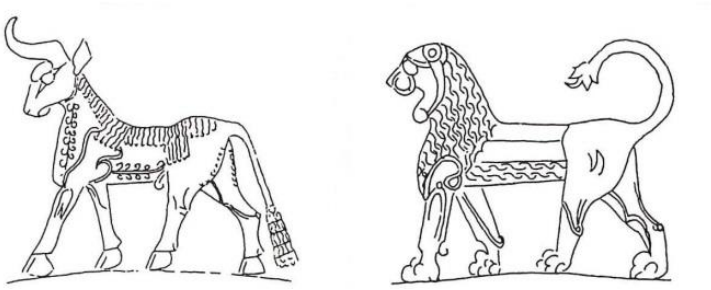
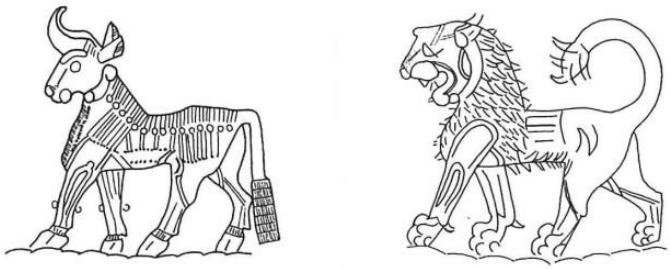
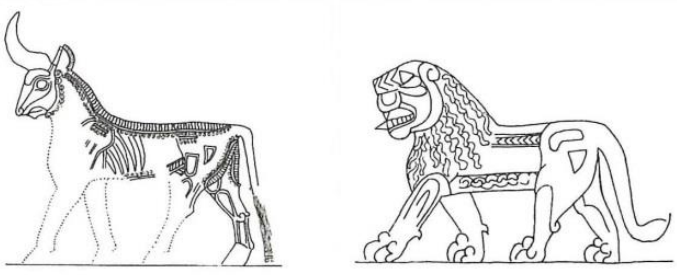
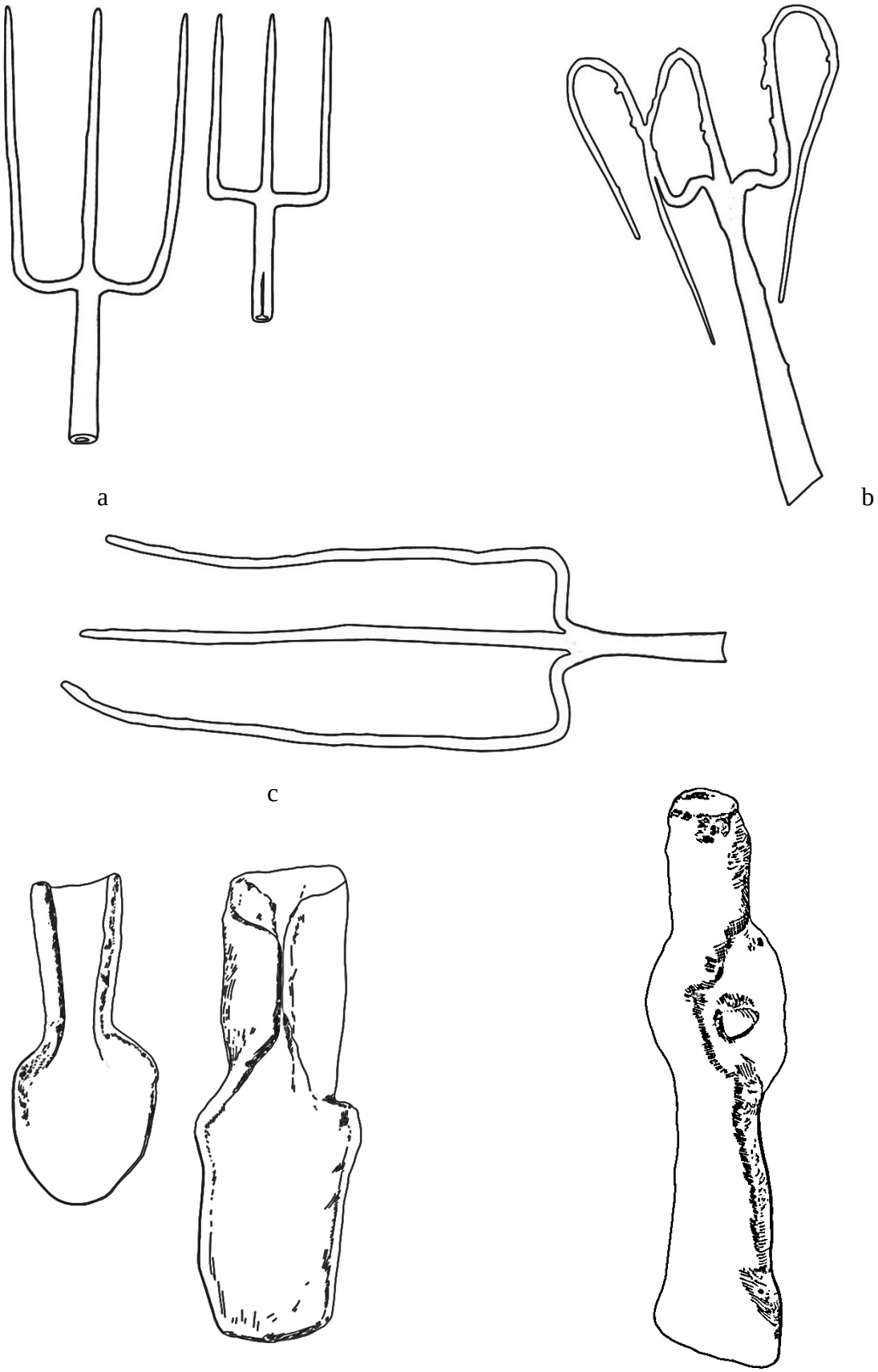
Argišti (I) son of Minua	
Sarduri (II) son of Argišti	
Rusa (I) son of Sarduri	
Rusa (II) son of Erimena	
Rusa (III) son of Argišti	

Figure 79.

Figure 80.

a b

Figure 81.



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